

AI Boom Continues to Fuel Factory Activity, but the Manufacturing Divide Is Widening

Executive Summary

- The global manufacturing sector has entered a new phase of recovery, but unlike previous industrial upcycles, the current expansion is increasingly being driven by artificial intelligence (AI)-related investment rather than broad-based consumer demand. The rapid build-out of AI infrastructure, including semiconductors, data centers, cloud computing capacity and advanced electronics, has become the dominant catalyst supporting factory production, global trade, and capital expenditure across many advanced and emerging economies. As a result, manufacturing performance is becoming increasingly uneven, with countries deeply integrated into global semiconductor and AI supply chains significantly outperforming those reliant on more traditional manufacturing industries.
- Global manufacturing activity remained firmly in expansion territory in June, with the Global Manufacturing Purchasing Managers' Index (PMI) registering 52.2, marking the eleventh consecutive month above the expansion threshold of 50.0 despite moderating slightly from May's 50-month high of 52.7. Industrial production and exports have likewise strengthened across many technology-oriented economies, supported by robust demand for AI servers, advanced processors, memory chips, networking equipment and supporting electronic components. While earlier concerns surrounding geopolitical tensions in the Middle East temporarily disrupted supply chains and encouraged precautionary inventory accumulation, structural investment in AI infrastructure has proven sufficiently strong to offset many of these headwinds.
- However, the benefits of this manufacturing recovery are becoming increasingly concentrated. Economies such as the United States, South Korea, Taiwan, Japan, Singapore, and Malaysia have experienced stronger industrial momentum owing to their extensive participation in semiconductor manufacturing, electronics production, and AI-related investment. Conversely, countries with lower exposure to advanced technology manufacturing have experienced considerably weaker factory activity as traditional export sectors continue to face sluggish global consumer demand, elevated financing costs, and persistent trade uncertainties. This growing divergence suggests that the global manufacturing cycle is becoming increasingly technology-driven rather than broadly cyclical.
- Malaysia stands out as one of ASEAN's principal beneficiaries of this structural transformation. The country's well-established electrical and electronics (E&E) ecosystem, strategic position within the global semiconductor value chain, expanding data center investments and increasing participation in supply-chain diversification have collectively strengthened export performance and manufacturing activity. Malaysia's manufacturing exports, particularly semiconductors and integrated circuits, have accelerated sharply alongside improving industrial production and renewed PMI expansion, reinforcing the country's growing importance within the global AI supply chain. Looking ahead, while inventory normalization and potential moderation in AI investment

present downside risks, structural drivers—including digitalization, artificial intelligence adoption, multinational investment diversification, and supportive industrial policies—should continue to underpin Malaysia's manufacturing sector over the medium term.

Global Manufacturing Backdrop: AI Becomes the New Engine for Industrial Growth

- The global manufacturing landscape has undergone a significant structural shift over the past year. Rather than reflecting a conventional cyclical recovery driven by broad improvements in household consumption or synchronized global economic expansion, the current manufacturing upturn has increasingly been underpinned by extraordinary investment in artificial intelligence infrastructure. The rapid expansion of AI-related capital expenditure - including semiconductors, data centers, cloud computing, networking equipment, and advanced electronic systems - has become the primary engine sustaining global factory activity despite persistent geopolitical uncertainties, uneven consumer demand, and elevated financing costs.
- Latest PMI indicators continue to point towards a resilient global manufacturing sector. The Global Manufacturing PMI registered 52.2 in June, remaining comfortably above the neutral 50-point threshold for an eleventh consecutive month despite easing marginally from May's 52.7, the highest reading in more than four years. Factory output similarly continued expanding at one of its fastest rates since 2021, suggesting that industrial activity remains broadly supported despite growing concerns over global trade fragmentation and slowing inventory accumulation.

Table 1: Purchasing Managers Index (PMI) of Selected Countries

	Jan-26	Feb-26	Mar-26	Apr-26	May-26	Jun-26
World	50.9	51.8	51.3	52.6	52.7	52.2
United States						
S&P Global	52.4	51.6	52.3	54.5	55.1	53.9
ISM	52.6	52.4	52.7	52.7	54.0	53.3
Euro Area	49.5	50.8	51.6	52.2	51.6	51.4
United Kingdom	51.8	51.7	51.0	53.7	53.9	52.5
Japan	51.5	53.0	51.6	55.1	54.5	54.8
China						
RatingDog	50.3	52.1	50.8	52.2	51.8	51.7
NBS	49.3	49.0	50.4	50.3	50.0	50.3
South Korea	51.2	51.1	52.6	53.6	54.8	52.1
ASEAN	52.8	53.8	51.8	50.7	51.5	50.5

Malaysia	50.2	49.3	50.7	51.6	49.9	50.7
Indonesia	52.6	53.8	50.1	49.1	50.0	46.9
Thailand	52.7	53.5	54.1	52.7	52.6	53.6
Philippines	52.9	54.6	51.3	48.3	50.8	50.9
Vietnam	52.5	54.3	51.2	50.5	52.8	51.8
Singapore	50.5	50.6	50.5	50.7	51.0	51.3

Sources: S&P Global, China's National Bureau of Statistics, U.S. Institute for Supply Management, CEIC Data

- Unlike previous manufacturing recoveries, however, the current expansion has become increasingly concentrated within industries directly linked to AI infrastructure. The unprecedented surge in investment by global hyperscale technology companies, including Microsoft, Amazon and other leading cloud service providers, has generated substantial demand for high-performance semiconductors, advanced memory chips, servers, networking hardware, and electrical infrastructure. This investment wave has cascaded throughout global manufacturing supply chains, benefiting countries possessing strong capabilities in semiconductor fabrication, electronic component manufacturing, precision engineering, and industrial automation.
- Consequently, manufacturing performance across major economies has become increasingly divergent. Countries occupying strategic positions within the AI supply chain have recorded significantly stronger production growth than economies reliant on more traditional manufacturing sectors. Rather than experiencing a broad-based global industrial expansion, manufacturing activity is increasingly reflecting differences in countries' technological capabilities and integration within advanced electronics supply chains.
- This divergence has become particularly evident across Asia. While several East Asian economies have recorded their strongest manufacturing performances in years, factory activity across parts of Southeast Asia has remained considerably more subdued. The contrast underscores how AI-driven investment is reshaping regional manufacturing dynamics and creating a new hierarchy of industrial competitiveness.

Global PMI Signals Diverging Manufacturing Performance

- Although global manufacturing remains firmly in expansion territory, regional performance has become increasingly uneven. North America emerged as one of the strongest-performing manufacturing regions during the second quarter, largely reflecting robust industrial momentum in the United States. Manufacturing output accelerated sharply as technology investment supported new orders, production, and capital expenditure across numerous industrial sectors. At the same time, Japan recorded its strongest quarterly manufacturing expansion since 2014, while South Korea and Taiwan experienced their best manufacturing performance in approximately five years. China also maintained modest expansion, supported primarily by technology exports and policy measures aimed at stimulating advanced manufacturing.
- In contrast, ASEAN's manufacturing momentum weakened considerably. Although several

economies - including Thailand, Vietnam, Malaysia, and Singapore - remained in expansion territory, overall regional PMI softened as Indonesia entered contraction while growth moderated across several export-oriented economies. This weakening does not necessarily reflect a deterioration in global demand but rather highlights differing exposure to sectors benefiting from AI-related investment. Countries with greater participation in semiconductor production and advanced electronics have continued outperforming those dependent on labor-intensive manufacturing or traditional consumer goods exports.

- The current manufacturing cycle therefore differs fundamentally from previous recoveries. Historically, global manufacturing expansions were typically driven by stronger household consumption, inventory rebuilding, and synchronized improvements in international trade. Today, manufacturing growth is increasingly concentrated within relatively narrow segments of the industrial economy, particularly semiconductor fabrication, advanced electronics, industrial automation, power management systems and supporting digital infrastructure.

AI Investment Has Become the Principal Driver of Global Manufacturing

- Artificial intelligence is no longer merely a technology theme affecting software companies or financial markets. It has evolved into one of the most significant drivers of global industrial production.
- The rapid deployment of generative AI models has triggered an unprecedented global investment cycle centered on computing infrastructure. Hyperscale cloud providers are committing hundreds of billions of dollars towards expanding data center capacity, acquiring increasingly sophisticated graphics processing units (GPUs), upgrading networking infrastructure and strengthening electricity transmission capabilities. Every layer of this investment cycle translates directly into higher manufacturing demand across numerous industries.
- Semiconductor manufacturers are experiencing record demand for advanced logic chips, high-bandwidth memory (HBM), power management devices, and integrated circuits. Equipment manufacturers supplying wafer fabrication, testing and advanced packaging systems are similarly benefiting from expanding production capacity. Meanwhile, producers of industrial cooling equipment, specialized cabling, electrical transformers, precision machinery, and construction materials are witnessing stronger order books as global data center development accelerates.
- Importantly, the AI investment cycle extends well beyond semiconductor manufacturing itself. Data centers require substantial investments in electrical infrastructure, power generation, cooling systems, telecommunications networks, engineering services, and industrial construction. Consequently, AI has generated positive spillover effects across multiple manufacturing subsectors, supporting broader industrial activity despite relatively subdued global consumer demand.
- This explains why manufacturing has remained resilient even as other segments of the global economy continue to face headwinds from elevated interest rates, geopolitical uncertainty, and slower household spending. In many respects, AI-related capital expenditure has effectively replaced consumer demand as the primary marginal driver of global manufacturing growth.

Global Trade Reflects Technology-Led Expansion

- The strengthening of global manufacturing has been mirrored by significant improvements in merchandise exports, particularly among technology-intensive economies. Export growth has accelerated sharply across several Asian economies, led by semiconductors, electronics, and high-value manufacturing products. South Korea recorded exceptional export growth supported by surging semiconductor shipments, while Taiwan, Singapore, Vietnam, and Malaysia similarly benefited from strong external demand for AI-related components. Malaysia's E&E exports surged by 70.5% year-on-year in May, underpinned by semiconductor exports that more than doubled from a year earlier.
- These developments suggest that global trade is increasingly being shaped by technology investment rather than traditional merchandise demand. Export performance is no longer determined solely by broad macroeconomic conditions but increasingly reflects participation in AI supply chains. As multinational corporations continue expanding semiconductor production, investing in data centers, and diversifying manufacturing operations across Asia, economies possessing established electronics ecosystems are likely to remain the principal beneficiaries.
- Nevertheless, the sustainability of this momentum will increasingly depend on the durability of AI investment itself. As precautionary inventory accumulation gradually fades and supply chains normalize, manufacturing growth is expected to moderate from the exceptionally strong pace observed during the first half of the year. The key question for policymakers and investors is therefore no longer whether manufacturing activity will remain positive, but whether AI-related investment can continue generating sufficient demand to offset slowing inventory rebuilding and softer global consumer spending.

Table 2: Export Performance of Selected Countries (% y-o-y)

	Dec-25	Jan-26	Feb-26	Mar-26	Apr-26	May-26	Jun-26
United States	7.8	12.9	16.7	15.8	15.3	12.6	-
European Union	2.2	-9.2	-8.8	-8.2	3.2	-	-
United Kingdom	-21.6	-29.8	-21.6	-13.5	4.4	-	-
Japan	5.1	16.8	4.0	11.5	14.8	16.8	-
China	6.5	10.0	39.6	2.5	14.0	19.4	-
South Korea	13.3	33.9	29.4	50.4	47.9	53.4	70.9
Malaysia	10.2	19.6	10.7	8.4	37.3	45.3	-
Singapore	10.6	30.3	11.0	41.0	31.7	36.1	-
Indonesia	11.6	3.4	1.0	-3.1	22.0	-5.7	-
Thailand	16.8	24.4	9.9	18.7	23.1	10.6	-
Philippines	23.9	8.7	8.9	20.8	7.2	7.6	-
Vietnam	23.9	29.9	5.8	20.3	22.2	18.0	-

Sources: Respective Government Agencies, CEIC Data

The Global Manufacturing Divide: AI Winners and the Emerging Two-Speed Industrial Economy

- The global manufacturing recovery has become increasingly uneven, highlighting a structural divergence between economies participating directly in the AI investment cycle and those still dependent on more traditional export-oriented manufacturing. While headline PMI readings suggest that global factory activity remains resilient, the underlying drivers of growth have become increasingly concentrated within a relatively narrow group of countries possessing advanced semiconductor ecosystems, strong technology manufacturing capabilities, and well-developed digital infrastructure.
- This divergence represents a significant departure from previous manufacturing cycles. Historically, improvements in factory activity were largely synchronized across regions, driven by broad recoveries in global consumption, inventory rebuilding and international trade. In contrast, today's industrial expansion is increasingly centered on technology-intensive sectors supporting AI deployment, cloud computing, and digital infrastructure. As a result, countries with established positions in semiconductor manufacturing and electronics supply chains are capturing a disproportionate share of industrial production, exports, and capital investment, while economies with lower technology exposure are experiencing a considerably more moderate recovery.
- The implications extend beyond manufacturing alone. AI-driven investment is reshaping global capital allocation, influencing foreign direct investment (FDI), labor demand, infrastructure development, and industrial policy. Governments are increasingly competing to attract semiconductor fabrication plants, advanced packaging facilities, data centers and supporting industries, recognizing that participation in the AI value chain will become an increasingly important determinant of long-term industrial competitiveness.
- Against this backdrop, the United States, China, and South Korea illustrate three distinct pathways through which AI is reshaping manufacturing performance.

US: AI Capital Expenditure Reinforces Manufacturing Momentum

- The U.S. has emerged as one of the principal beneficiaries of the global AI investment boom. Manufacturing activity has strengthened considerably over recent quarters, supported less by traditional consumer goods production and increasingly by unprecedented levels of capital expenditure on AI infrastructure. Both the S&P Global Manufacturing PMI and the Institute for Supply Management (ISM) Manufacturing PMI remained firmly in expansion territory during June, reflecting sustained growth in production, new orders, and business investment.
- Unlike previous investment cycles centered on consumer electronics or smartphones, the current wave of expenditure is being driven by hyperscale cloud providers and technology companies racing to expand AI computing capacity. Major firms including Microsoft, Amazon and Meta Platforms have announced multi-billion-dollar investments in AI infrastructure, requiring vast quantities of high-performance processors, advanced memory chips, networking equipment, and specialized data center hardware.

- This surge in capital expenditure has generated substantial spillover effects across the broader manufacturing sector. Demand has strengthened not only for semiconductor fabrication but also for electrical equipment, industrial machinery, power distribution systems, cooling technologies, and construction materials supporting large-scale data center development. Consequently, manufacturing growth has remained resilient despite elevated borrowing costs and softer household spending.
- The AI investment cycle has also reinforced the U.S. broader industrial policy objectives. Initiatives aimed at strengthening domestic semiconductor manufacturing and reducing reliance on overseas chip production continue to encourage private investment into fabrication facilities, research and development, and advanced manufacturing technologies. These structural investments are expected to support manufacturing capacity beyond the current economic cycle, making AI infrastructure one of the most important long-term drivers of industrial activity.
- Nevertheless, risks remain. The current pace of AI-related capital expenditure is exceptionally high by historical standards. Should technology firms moderate investment due to weaker profitability, funding constraints or slower commercial adoption of AI applications, manufacturing momentum could soften more rapidly than traditional business cycle indicators currently imply.

China: Balancing Structural Technology Strength Against Domestic Weakness

- China presents a more balanced manufacturing story. Factory activity has remained in expansion territory, supported by resilient exports of advanced manufactured products and continued government support for strategic industries. Manufacturing PMI readings continued to indicate modest expansion during June, although the pace of growth remained more measured than in several other Asian technology exporters.
- Unlike the U.S., where private-sector AI investment has become the principal growth engine, China's manufacturing expansion reflects a combination of industrial policy, export competitiveness, and domestic technology investment. The country continues to dominate global production across numerous technology sectors, including consumer electronics, renewable energy equipment, electric vehicles (EVs), batteries and increasingly AI hardware.
- Chinese manufacturers have also accelerated investment in industrial automation, robotics, and artificial intelligence applications to improve productivity amid rising labor costs and increasing geopolitical uncertainty. This transition towards higher value-added manufacturing has enabled China to maintain competitiveness despite persistent external trade restrictions and evolving global supply chains.
- However, China's manufacturing sector continues to face meaningful structural challenges. Domestic household consumption remains relatively subdued following the prolonged downturn in the property sector, while exports continue to encounter increasing trade barriers across several advanced economies. These factors have prevented China's industrial recovery from matching the pace observed in economies experiencing stronger AI-related export demand.

- Looking ahead, China's manufacturing outlook will likely remain supported by continued investment in strategic industries, including semiconductors, electric vehicles, renewable technologies, and industrial automation. Nevertheless, slower domestic demand and ongoing geopolitical tensions are expected to limit the breadth of the recovery relative to previous industrial upcycles.

South Korea: The AI Semiconductor Supercycle Continues

- Among major manufacturing economies, South Korea arguably provides the clearest example of how AI investment is reshaping industrial performance. The country's semiconductor industry has experienced an extraordinary recovery, with exports and factory production accelerating sharply as global demand for advanced memory chips continues to expand.
- South Korea's exports reached a historic milestone during June, exceeding USD100 billion for the first time, while semiconductor shipments surged nearly 200% year-on-year. Computer exports similarly recorded exceptional growth, reflecting sustained demand from global technology companies expanding AI infrastructure. At the same time, imports of semiconductor manufacturing equipment increased significantly, suggesting that domestic producers are continuing to expand production capacity in anticipation of further demand growth.
- The strength of South Korea's manufacturing sector illustrates the increasingly central role of memory semiconductors within AI computing systems. Unlike earlier computing cycles, generative AI applications require substantially larger memory capacity, significantly benefiting producers of high-bandwidth memory (HBM) and advanced dynamic random-access memory (DRAM). Consequently, South Korean manufacturers have emerged as some of the largest beneficiaries of the current AI investment cycle.
- However, South Korea also illustrates one of the principal risks associated with the current manufacturing recovery. Export performance has become increasingly concentrated within a relatively narrow group of semiconductor products, making overall industrial activity more vulnerable to fluctuations in the technology cycle. Should AI infrastructure investment moderate, countries with significant dependence on semiconductor exports could experience a more pronounced slowdown than economies with broader industrial diversification.

ASEAN: A Region Increasingly Divided by Technology Exposure

- The widening manufacturing divide is perhaps most evident within ASEAN. While the region as a whole remained in expansion territory during June, underlying performance varied significantly across member economies. Thailand, Malaysia, Vietnam and Singapore all recorded PMI readings above the expansion threshold, whereas Indonesia slipped into contraction, highlighting increasingly uneven manufacturing momentum across Southeast Asia.
- The divergence largely reflects differences in industrial composition rather than broad macroeconomic fundamentals. Economies with well-developed electronics industries - including Malaysia, Singapore and increasingly Vietnam - have benefited from sustained demand for semiconductors, electrical equipment, and AI-related hardware. Thailand has similarly capitalized

on stronger electronics exports and increasing participation in regional technology supply chains.

- Conversely, countries who are more heavily reliant on labor-intensive manufacturing or commodity-based exports have experienced considerably weaker factory activity. Indonesia's contraction illustrates how limited participation in advanced technology manufacturing has constrained industrial performance despite generally supportive domestic economic conditions.
- The region is therefore entering a new phase of industrial competition. Rather than competing primarily on labor costs or export incentives, ASEAN economies are increasingly competing to attract higher value-added manufacturing activities linked to semiconductors, AI infrastructure, advanced electronics, and digital services. This structural transition is expected to shape manufacturing investment patterns across the region over the coming decade.

Malaysia Is Emerging as an AI Manufacturing Hub

- Within ASEAN, Malaysia occupies a distinctive position. Unlike several regional peers that remain concentrated in lower value-added manufacturing, Malaysia possesses one of Asia's most established semiconductor ecosystems, accounting for a significant share of global semiconductor assembly, testing, and packaging activities. Combined with expanding data center investments, improving digital infrastructure and sustained multinational investment, these structural advantages have increasingly positioned Malaysia as a key beneficiary of the global AI investment cycle.
- Recent improvements in Malaysia's manufacturing PMI, exports and industrial production therefore represent more than a short-term cyclical recovery. Instead, they reflect the country's growing integration into one of the fastest-expanding segments of the global economy. As multinational corporations continue diversifying production networks and expanding AI-related manufacturing capacity, Malaysia appears increasingly well positioned to capture a larger share of global technology investment.
- This evolving role forms the foundation for Malaysia's next stage of industrial development and provides an important backdrop for assessing the country's manufacturing outlook, export performance, and broader economic prospects.

Malaysia: Positioned to Capture the Next Wave of AI-Driven Manufacturing

- Malaysia's manufacturing sector is entering a new phase of structural transformation. While cyclical factors such as inventory rebuilding, recovering global trade and improving external demand have contributed to the recent rebound in industrial activity, these alone do not fully explain the strength of Malaysia's manufacturing performance. Instead, a more fundamental shift is underway. The accelerating global deployment of AI, rapid expansion of semiconductor investment and ongoing reconfiguration of global supply chains are collectively reinforcing Malaysia's position within high-value manufacturing networks.
- Unlike previous export cycles that were largely dependent on consumer electronics or commodity

demand, the current expansion is increasingly supported by long-term investment in AI infrastructure. Demand for advanced semiconductors, servers, data centers, networking equipment, and industrial automation is creating sustained opportunities for economies with established electronics ecosystems. Malaysia is among a relatively small group of countries possessing the industrial capabilities, supply-chain connectivity, and policy support necessary to benefit from this transformation.

- The country's manufacturing recovery should therefore be viewed not merely as a cyclical rebound following weaker global demand in previous years, but as part of a broader structural shift towards higher value-added manufacturing. This transition has important implications not only for exports and industrial production, but also for private investment, productivity growth, and Malaysia's long-term economic competitiveness.

Manufacturing Activity Returns to Expansion

- Malaysia's manufacturing sector has shown encouraging signs of recovery after experiencing a period of subdued activity during late 2025 and early 2026. The S&P Global Manufacturing PMI rose to 50.7 in June, returning above the expansion threshold after slipping below 50.0 in May. While the improvement appears modest in absolute terms, it marks an important turning point, suggesting that production, new orders, and business confidence are gradually strengthening alongside the recovery in external demand.
- More importantly, the improvement in PMI is consistent with a broader set of high-frequency indicators. Industrial production has accelerated, manufacturing sales have strengthened and export performance has improved significantly over recent months. These indicators collectively suggest that the manufacturing recovery is becoming increasingly broad-based rather than being confined to isolated subsectors.
- Unlike several regional economies where manufacturing remains constrained by weaker domestic demand, Malaysia's recovery has been primarily driven by external demand. The country's highly open economy and deep integration into global electronics supply chains mean that improvements in international technology spending are transmitted relatively quickly into domestic factory activity.
- Recent survey evidence also indicates improving production expectations among manufacturers as supply-chain disruptions ease and new export orders gradually recover. Although firms remain cautious regarding geopolitical developments and global trade policies, business sentiment has become increasingly supported by resilient technology demand and continuing investment commitments from multinational corporations.

Export Performance Highlights Malaysia's Growing Role in the AI Supply Chain

- Perhaps the clearest evidence of Malaysia's structural transformation is visible in the composition of its exports. While headline export growth has been exceptionally strong in recent months, the underlying drivers reveal an economy increasingly integrated into the global AI ecosystem rather

than simply benefiting from cyclical improvements in world trade.

- Malaysia's exports expanded by 45.3% y-o-y in May, bringing cumulative export growth during the first five months of the year to more than 24%. Manufacturing exports rose even faster at 51.7%, substantially outperforming other export categories. Most notably, electrical, and electronic (E&E) exports surged 70.5%, while semiconductor shipments more than doubled compared with the previous year.
- These figures represent considerably more than a temporary export rebound. They reflect Malaysia's growing participation in one of the fastest expanding segments of global manufacturing.
- The AI investment cycle has fundamentally altered the composition of global electronics demand. Traditional semiconductor cycles were largely driven by smartphones, personal computers, and consumer electronics. In contrast, AI applications require significantly greater computing power, substantially increasing demand for graphics processing units (GPUs), high-bandwidth memory, advanced packaging technologies, specialized integrated circuits, and power management systems.
- Malaysia occupies an increasingly important position within this value chain.
- The country has developed one of the world's largest outsourced semiconductor assembly and test (OSAT) ecosystems, supported by decades of investment from leading multinational corporations. Global semiconductor manufacturers continue to rely on Malaysian facilities for assembly, testing, packaging, and increasingly more sophisticated back-end manufacturing processes.
- As AI chips become more complex, demand for advanced packaging, precision testing and higher reliability standards is rising rapidly. These activities represent areas where Malaysia possesses significant competitive advantages, allowing domestic manufacturers to capture increasing value within the semiconductor supply chain.
- Equally important, Malaysia's export performance demonstrates that participation in AI manufacturing extends beyond semiconductor fabrication alone. Demand has strengthened across optical instruments, industrial machinery, precision engineering equipment, and specialized manufacturing inputs, reflecting the broader expansion of AI infrastructure worldwide.

Table 3: Malaysia's Export Performance (% y-o-y)

	Dec-25	Jan-26	Feb-26	Mar-26	Apr-26	May-26
Total Exports	10.2	19.6	10.7	8.4	37.3	45.3
Agriculture	-7.5	-2.5	-15.8	-7.8	4.7	-22.9
Palm Oil	-12.7	-1.4	-16.5	-8.3	1.2	-29.4
Manufacturing	13.4	22.3	12.7	9.6	40.5	51.7
Electrical & Electronic Products	25.0	39.5	28.5	15.1	46.6	70.5
Chemical & Chemical Products	-6.4	-7.8	-16.7	-20.1	25.1	2.6
Machinery, Equipment & Parts	11.0	12.7	-0.2	2.1	26.5	15.6
Petroleum Products	-18.9	-16.7	-23.5	23.5	70.2	74.2

Optical & Scientific Equipment	20.6	36.4	42.9	29.3	49.5	45.0
Mining	-15.2	2.7	12.2	0.5	25.0	36.5
Crude Petroleum	-39.0	-39.0	6.5	4.9	-20.4	-67.1
Liquefied Natural Gas	-24.9	-5.2	-27.3	-17.5	4.8	111.5

Sources: Department of Statistics Malaysia (DOSM), CEIC Data

Industrial Production Reflects Broad-Based Improvement

- Malaysia's Industrial Production Index (IPI) provides further evidence that manufacturing momentum has strengthened beyond sentiment indicators alone. Industrial production expanded by 8.2% y-o-y in April, representing one of the strongest performances over the past year and significantly outperforming first-quarter growth. Manufacturing output accelerated to 8.3%, while mining returned to positive territory and electricity generation strengthened further, reflecting improving industrial utilization across multiple sectors.
- The composition of industrial growth is equally encouraging. Manufacturing remains the principal contributor, supported by sustained expansion in electrical and electronics production, machinery manufacturing, and precision equipment. Within manufacturing, computer, electronics, and optical products continue to outperform the broader sector, reflecting Malaysia's comparative advantage in technology-intensive production.
- Electrical and electronic production has maintained double-digit growth throughout much of the year, while machinery and equipment output has also improved as firms expand production capacity to meet rising global demand. The strengthening of electricity generation further suggests increasing industrial utilization, particularly among energy-intensive manufacturing activities associated with semiconductor production and electronics assembly.
- Importantly, this broad-based improvement differs from previous manufacturing recoveries that relied heavily on commodity-related industries. Instead, current industrial expansion is increasingly concentrated in sectors characterized by higher productivity, stronger technological intensity, and greater integration into global value chains. This shift supports Malaysia's long-term objective of transitioning towards advanced manufacturing under the New Industrial Master Plan 2030.

Table 4: Malaysia Industrial Production Index (% y-o-y)

	Oct-25	Nov-25	Dec-25	Jan-26	Feb-26	Mar-26	Apr-26
Industrial Production Index (IPI)	5.8	4.1	4.8	5.9	3.1	3.1	8.2
Manufacturing	6.5	4.9	6.7	7.3	4.2	5.5	8.3
Electrical & Electronic Products (EE)	13.4	10.8	12.8	15.2	12.9	12.5	12.8
Computer, Electronics & Optical (CE)	14.2	10.7	13.2	17.2	15.7	14.8	14.6
Electrical Equipment (EL)	9.3	13.9	12.2	6.1	3.5	3.0	5.2
Machinery & Equipment n.e.c (ME)	11.3	9.0	10.3	8.9	2.3	3.8	7.7

Sources: Department of Statistics Malaysia (DOSM), CEIC Data

Beyond Semiconductors: Malaysia's AI Ecosystem Is Broadening

- One of the defining characteristics of the current investment cycle is that its benefits extend far beyond semiconductor manufacturing itself. Every new data center requires extensive supporting infrastructure, including electrical equipment, cooling systems, specialized construction, telecommunications networks, industrial automation, power management solutions, and engineering services.
- This creates substantial multiplier effects throughout Malaysia's broader manufacturing ecosystem.
- Domestic engineering companies are benefiting from increased construction of technology facilities. Producers of industrial cables, switchgear, transformers, and electrical components are experiencing stronger order books as power infrastructure expands to support hyperscale data centers. Telecommunications companies are upgrading fibre networks to accommodate increasing digital traffic, while logistics providers are handling greater volumes of high-value technology exports.
- Consequently, AI-related investment is stimulating activity across numerous sectors that historically have relatively limited exposure to global technology cycles.
- This broader ecosystem effect distinguishes the current manufacturing expansion from previous semiconductor upcycles. Rather than benefiting only a narrow group of electronics firms, AI investment is increasingly supporting construction, utilities, industrial engineering, logistics, telecommunications, and business services. The economic spillovers are therefore becoming significantly larger than in previous technology cycles.

Foreign Direct Investment Signals Long-Term Confidence

- The strength of Malaysia's manufacturing outlook is also reflected in continuing foreign direct investment commitments. Multinational corporations are no longer investing solely to access lower production costs. Increasingly, investment decisions are being driven by supply-chain resilience, geopolitical diversification, and proximity to established semiconductor ecosystems.
- Malaysia has become a preferred destination for these investments.
- The country offers several structural advantages that remain difficult to replicate elsewhere within the region. These include decades of semiconductor manufacturing experience, a skilled engineering workforce, relatively mature supplier networks, strong intellectual property protection, modern logistics infrastructure, and strategic access to regional export markets.
- Recent investment commitments by global technology companies into semiconductor manufacturing, cloud infrastructure and hyperscale data centers reinforce confidence that Malaysia's role within global technology supply chains will continue expanding over the medium term.
- Government data further supports this narrative. Approximately 77% of approved manufacturing projects had been implemented by the end of 2025, representing more than RM500 billions of realized investments. Importantly, a growing proportion of these investments are concentrated in higher value-added manufacturing, advanced electronics, and digital infrastructure rather than

traditional labor-intensive industries.

- This suggests that Malaysia's investment cycle remains firmly intact despite continuing global uncertainty.

Policy Is Beginning to Reinforce Structural Competitiveness

- Malaysia's favorable positioning is not solely the product of private-sector investment. Over the past several years, industrial policy has become increasingly aligned with global structural trends, strengthening the country's competitiveness in advanced manufacturing.
- The **New Industrial Master Plan 2030 (NIMP 2030)** provides the overarching framework for moving Malaysia's manufacturing sector towards higher value-added production, greater technological sophistication, and stronger domestic innovation capabilities. Rather than competing primarily on labor costs, the strategy seeks to position Malaysia as a regional hub for advanced manufacturing, automation, and digital industries.
- Complementing this effort is the **National Semiconductor Strategy (NSS)**, which aims to deepen Malaysia's participation across the semiconductor value chain by attracting investments in integrated circuit design, wafer fabrication support services, advanced packaging, and semiconductor equipment. The strategy also places significant emphasis on developing domestic engineering talent and strengthening research capabilities to support higher-value activities.
- Meanwhile, the **Johor–Singapore Special Economic Zone (JS-SEZ)** is expected to further enhance Malaysia's attractiveness as a destination for technology investment. By leveraging Singapore's strengths in finance, innovation and regional headquarters alongside Johor's land availability, industrial capacity and competitive operating costs, the initiative has the potential to accelerate investment in semiconductors, advanced manufacturing, logistics and hyperscale data centers.
- Taken together, these policy initiatives demonstrate an important evolution in Malaysia's industrial strategy. Rather than focusing solely on attracting investment volumes, policymakers are increasingly prioritizing investment quality, technological upgrading and participation in strategic industries aligned with long-term global demand.
- This policy alignment significantly increases the likelihood that Malaysia's current manufacturing momentum represents the early stages of a structural industrial transformation rather than a temporary cyclical upswing.

Technology Sector Analysis: AI Is Reshaping the Global Industrial Landscape - Why Malaysia Is Emerging as a Strategic Beneficiary

- Artificial intelligence is often discussed as a software revolution, centered on algorithms, large language models, and digital applications. Yet the AI revolution is equally, if not more fundamentally, an industrial revolution. Every advancement in generative AI requires an enormous expansion of physical infrastructure - semiconductor fabrication plants, advanced packaging

facilities, hyperscale data centers, high-capacity power networks, fibre-optic connectivity, and precision engineering systems. Behind every AI model lies a complex manufacturing ecosystem, creating one of the largest technology investment cycles since the emergence of the internet.

- Unlike previous digital transformations that primarily benefited software developers and internet platforms, today's AI boom is generating tangible demand for manufactured goods. Every new AI model requires exponentially greater computing power, translating directly into higher demand for advanced semiconductors, specialized memory chips, networking equipment, power management systems, and industrial machinery. Consequently, manufacturing has once again become central to technological innovation, placing industrial economies back at the forefront of global economic growth.
- For Malaysia, this represents a structural opportunity rather than merely a cyclical export recovery. The country's long-established semiconductor ecosystem, expanding digital infrastructure and increasing integration into global technology supply chains position it favorably to participate in the physical build-out underpinning the AI economy.

AI Infrastructure Is Creating a New Global Capital Expenditure Cycle

- The defining feature of the current technology cycle is the unprecedented scale of capital expenditure. Global technology companies are investing hundreds of billions of dollars annually to expand AI computing capacity. Unlike consumer-driven technology cycles, where demand depended largely on household purchases of smartphones or personal computers, the AI cycle is being driven by enterprise investment. Technology firms are racing to secure computing capacity, construct data centers and deploy increasingly sophisticated hardware capable of training and operating advanced AI models.
- This investment wave extends across multiple industries. Semiconductor manufacturers are expanding fabrication capacity to meet demand for increasingly powerful processors. Memory producers are scaling up production of high-bandwidth memory (HBM), which has become essential for AI workloads. Manufacturers of advanced packaging equipment are experiencing strong order growth as chip architectures become more complex. At the same time, engineering firms, electrical equipment manufacturers, and industrial automation companies are benefiting from the construction of new data centers and supporting infrastructure.
- The scale of this investment cycle distinguishes it from previous semiconductor upturns. Rather than being driven primarily by replacement demand for consumer electronics, current investment reflects a structural expansion of global digital infrastructure. As AI adoption accelerates across finance, healthcare, manufacturing, logistics and public services, demand for computing capacity is expected to remain elevated for several years, supporting continued investment throughout the semiconductor ecosystem.
- According to the latest projections by the World Semiconductor Trade Statistics (WSTS), global semiconductor sales are expected to surge to approximately USD1.5 trillion in 2026, followed by further expansion in 2027. Memory semiconductors are forecast to record particularly strong growth, reflecting the increasing importance of high-bandwidth memory in AI computing systems.

Malaysia's Semiconductor Ecosystem Is Well Positioned

- Malaysia occupies a unique position within the global semiconductor industry. While the country does not compete directly with Taiwan or South Korea in leading-edge wafer fabrication, it has developed one of the world's most comprehensive outsourced semiconductor assembly and test (OSAT) ecosystems. For decades, Malaysia has served as a critical manufacturing hub for multinational semiconductor companies, specializing in assembly, testing, packaging, and increasingly sophisticated back-end semiconductor processes.
- This positioning has become increasingly valuable as semiconductor manufacturing evolves. Modern AI chips are significantly more complex than previous generations of processors, requiring advanced packaging technologies, precision testing, and higher reliability standards. As chipmakers push the limits of performance and energy efficiency, advanced packaging has become one of the fastest-growing segments of the semiconductor value chain.
- Malaysia's established capabilities therefore place the country in a favorable position to capture a larger share of value-added activities. Rather than competing on labor costs, Malaysian firms are increasingly competing on engineering expertise, manufacturing precision, process reliability, and supply-chain integration. This transition supports higher productivity, stronger margins, and greater resilience against competition from lower-cost manufacturing locations.
- Moreover, Malaysia's semiconductor ecosystem extends well beyond multinational corporations. Over time, a growing network of domestic suppliers has emerged, providing specialized machinery, precision engineering, industrial automation, clean-room solutions, and technical services. This deepening ecosystem increases local value-added and strengthens the country's ability to benefit from future technology investment.

Data Centres Are Becoming a New Source of Economic Growth

- Perhaps the most visible manifestation of the AI investment cycle is the rapid expansion of hyperscale data centers. These facilities form the backbone of modern AI applications, providing the computing power required to train increasingly sophisticated machine learning models and deliver AI services globally.
- Malaysia has emerged as one of Asia's fastest-growing data center destinations. Johor, in particular, has attracted substantial investment from global cloud service providers owing to its strategic proximity to Singapore, competitive operating costs, availability of industrial land and improving infrastructure. Meanwhile, Klang Valley continues to strengthen its role as the country's principal digital economy hub, supported by high-quality telecommunications infrastructure and a deep pool of technical talent.
- The economic importance of data center investment extends far beyond the facilities themselves. Construction of hyperscale campuses stimulates demand for engineering services, industrial construction, cement, steel, electrical systems, transformers, switchgear, cooling technologies, and specialized building materials. Once operational, data centers require ongoing investment in maintenance, cybersecurity, fibre connectivity, power generation and facility management.

- This creates substantial multiplier effects across the domestic economy. Utilities benefit from rising electricity demand, telecommunications companies expand network capacity, industrial property developers gain from increased demand for technology parks, while logistics providers facilitate the importation of specialized equipment. Financial institutions also benefit through project financing, working capital facilities and trade finance linked to these large-scale investments.
- Unlike conventional manufacturing investments, data centers also reinforce the broader digital ecosystem by attracting software developers, cloud service providers, cybersecurity firms, and digital services companies. Consequently, the AI infrastructure boom is contributing to the development of a more diversified and technologically sophisticated economy.

E&E Remain the Backbone of Manufacturing

- The electrical and electronics (E&E) sector continues to serve as the cornerstone of Malaysia's manufacturing industry, accounting for a substantial share of industrial production, exports, and foreign direct investment. More importantly, the sector is evolving alongside global technology trends.
- Historically, Malaysia's E&E exports were dominated by consumer electronics, electrical appliances, and traditional integrated circuits. Today, export growth is increasingly concentrated in higher value-added components supporting AI, cloud computing, electric vehicles, industrial automation, and advanced communications equipment.
- Recent export data illustrate this transition. Semiconductor exports recorded exceptional growth during the first half of the year, while production of computer, electronics and optical products consistently outperformed broader manufacturing. These developments indicate that Malaysia is moving beyond volume-driven manufacturing towards increasingly technology-intensive production.
- This structural upgrading carries important macroeconomic implications. Higher value-added manufacturing typically generates stronger wage growth, greater research and development expenditure, improved productivity, and more resilient export earnings. Over time, these factors contribute to a more sustainable growth model that is less dependent on commodity cycles or low-cost manufacturing.

The AI Boom Extends Beyond Technology Companies

- One of the most significant misconceptions surrounding AI is that its economic benefits are confined to technology firms. In reality, the AI investment cycle is generating opportunities across a broad spectrum of industries.
- Within Malaysia, engineering and industrial automation companies are benefiting from expanding semiconductor capacity and data center construction. Construction firms are experiencing stronger demand for specialized industrial facilities, while utilities are investing to accommodate rising electricity requirements. Telecommunications operators continue expanding fibre networks and cloud connectivity to support growing digital demand.

- Industrial real estate is also emerging as a major beneficiary. Demand for modern manufacturing facilities, logistics hubs and technology parks has increased alongside multinational investment, supporting industrial property values and encouraging further infrastructure development. Meanwhile, ports and logistics providers are handling larger volumes of high-value electronics exports, strengthening Malaysia's position as a regional trade hub.
- The banking sector likewise stands to benefit through increased corporate lending, project financing, equipment leasing, foreign exchange transactions, and trade finance associated with expanding manufacturing investment. Consequently, the AI investment cycle is generating broad-based economic spillovers extending well beyond the technology sector itself.

EVs Reinforce Malaysia's Advanced Manufacturing Strategy

- Although artificial intelligence currently dominates technology investment, the parallel expansion of electric vehicles (EVs) further strengthens Malaysia's advanced manufacturing outlook. Modern EVs require significantly greater semiconductor content than conventional internal combustion engine vehicles, encompassing power semiconductors, sensors, battery management systems, and advanced electronic control units.
- As global automotive manufacturers accelerate electrification, demand for many of the same electronic components supporting AI infrastructure is expected to remain robust. This convergence between AI, automation and electrification creates additional opportunities for Malaysian manufacturers specializing in semiconductors, precision engineering, and electronic components.
- Over the medium term, the interaction between these structural trends is likely to reinforce Malaysia's position within regional manufacturing supply chains, supporting continued investment in higher value-added production.

From Factory Floor to National Growth Engine

- Taken together, these developments illustrate that AI is no longer simply a technology story, it is increasingly an industrial policy story, an investment story and ultimately a macroeconomic story.
- For Malaysia, the implications extend well beyond stronger semiconductor exports. The AI-driven manufacturing cycle has the potential to reshape the country's growth model by raising productivity, deepening technological capabilities, attracting higher-quality foreign investment, and accelerating industrial upgrading. Unlike previous export booms that were heavily concentrated in lower value-added manufacturing, today's investment cycle encourages greater innovation, stronger domestic supplier development, and broader knowledge transfer.
- Nevertheless, sustaining these gains will require continued policy execution. Expanding semiconductor capacity alone will not be sufficient. Long-term competitiveness will depend equally on developing skilled human capital, strengthening engineering capabilities, ensuring reliable energy and water infrastructure, enhancing digital connectivity, and fostering domestic innovation ecosystems. Countries that successfully integrate these complementary investments are likely to capture a disproportionately larger share of future AI-related manufacturing.

- For Malaysia, the opportunity is therefore considerable, but so too is the responsibility to ensure that today's investment momentum evolves into durable industrial competitiveness.

Outlook and Risks

- The extraordinary pace of manufacturing growth witnessed over the past year is unlikely to be sustained indefinitely. As precautionary inventory accumulation fades, supply chains gradually normalize and base effects become less favorable, global manufacturing activity is expected to moderate from the exceptionally strong expansion recorded during the first half of the year. Nevertheless, moderation should not be mistaken for the end of the current industrial cycle. Rather, global manufacturing is entering a more mature phase in which structural investment in AI, digital infrastructure and advanced manufacturing is expected to become the principal source of industrial growth.
- This distinction is particularly important for Malaysia. While short-term fluctuations in exports and factory production will remain inevitable, the country's longer-term outlook is increasingly underpinned by structural changes in global manufacturing rather than purely cyclical improvements in external demand. The ongoing reconfiguration of semiconductor supply chains, expansion of hyperscale data centers, rising digitalization across industries and increasing investment in advanced electronics collectively provide Malaysia with an opportunity to strengthen its position within global manufacturing networks over the coming decade.
- The central question is therefore no longer whether Malaysia can benefit from the AI investment cycle, it already is, but whether the country can convert today's investment boom into sustained productivity gains, higher value-added manufacturing, and stronger long-term economic growth.

The AI Investment Cycle Is Expected to Remain Supportive

- Although financial markets periodically question whether AI-related capital expenditure has become excessive, underlying industry fundamentals continue to suggest that investment demand remains robust. The rapid commercial adoption of generative AI across finance, healthcare, manufacturing, education, and professional services continues to increase demand for computing capacity, while hyperscale cloud providers remain committed to expanding digital infrastructure to support future AI applications.
- Unlike previous technology investment cycles, where hardware demand often peaked once consumer markets became saturated, the current AI cycle is primarily enterprise driven. Businesses are still in the early stages of integrating AI into production processes, customer engagement, software development, logistics, financial services, and industrial automation. Consequently, demand for advanced semiconductors, high-performance computing systems and supporting infrastructure is likely to remain elevated over the medium term.
- This should continue supporting global demand for E&E products, semiconductor components, industrial machinery, and precision engineering services - areas in which Malaysia maintains established competitive advantages.

- Furthermore, AI infrastructure investment increasingly requires complementary spending on electricity networks, renewable energy, cooling systems, telecommunications infrastructure, and industrial construction. These secondary investment effects broaden the economic impact of AI well beyond the semiconductor industry itself, creating additional opportunities for economies capable of supplying these supporting industries.
- While the pace of expansion may become more measured compared with the extraordinary gains observed during the early stages of the AI boom, the underlying investment cycle appears sufficiently broad-based to continue supporting global manufacturing activity over the medium term.

Malaysia's Manufacturing Sector Is Transitioning Towards Higher Value Creation

- Malaysia's manufacturing outlook appears increasingly favorable as the composition of industrial activity continues shifting towards higher technology content. The country's long-established role in semiconductor assembly and testing is gradually expanding into more sophisticated manufacturing activities involving advanced packaging, precision engineering, integrated circuit design support, and specialized industrial services.
- This evolution carries significant macroeconomic implications.
- Higher value-added manufacturing generally generates stronger productivity growth, supports higher wages, and attracts greater investment in research and development. As multinational corporations expand operations within Malaysia, opportunities for technology transfer, domestic supplier development and workforce upskilling are expected to increase, reinforcing the country's long-term industrial capabilities.
- Government initiatives, including the NIMP 2030, the NSS and the JS-SEZ, are expected to further strengthen this transition by encouraging investment into strategic manufacturing sectors, improving supply-chain resilience, and enhancing Malaysia's attractiveness as a regional technology hub.
- If successfully implemented, these initiatives should enable Malaysia to move beyond its traditional role as a manufacturing location towards becoming an increasingly important center for advanced industrial production and technology innovation.

AI Could Become an Increasingly Important Driver of Malaysia's Economic Growth

- Beyond manufacturing, the AI investment cycle has the potential to reshape Malaysia's broader economic landscape.
- Private investment is expected to remain one of the principal beneficiaries. Continued expansion of semiconductor facilities, data centers, industrial parks and supporting infrastructure should sustain strong capital formation, reinforcing domestic demand alongside resilient household consumption.
- The construction sector is likely to experience sustained growth as technology-related infrastructure projects continue to expand. Utilities will similarly benefit from rising electricity

demand associated with semiconductor fabrication and hyperscale data centers, while telecommunications companies are expected to continue investing in fibre connectivity and cloud infrastructure.

- Malaysia's services sector also stands to benefit indirectly. Financial institutions will support increasing project financing, trade finance and foreign exchange activities associated with expanding manufacturing investment. Professional services, including engineering, consulting, cybersecurity and digital services, are expected to experience rising demand as technology ecosystems become increasingly sophisticated.
- Taken together, these developments suggest that AI-related investment is likely to generate broader economic spillovers than previous export-led manufacturing cycles. Rather than supporting manufacturing alone, AI is increasingly becoming a catalyst for investment, employment, productivity, and services sector expansion.

However, Structural Challenges Should Not Be Underestimated

- Despite these favorable structural trends, Malaysia cannot assume that current momentum will automatically translate into sustained long-term competitiveness.
- One of the country's most pressing challenges remains the availability of highly skilled technical talent. As semiconductor manufacturing becomes increasingly sophisticated, demand for engineers specializing in integrated circuit design, advanced packaging, automation, artificial intelligence, and materials science will continue rising. Without sufficient investment in education, technical training and research capabilities, labor shortages could constrain future industrial expansion.
- Infrastructure capacity represents another important consideration. Semiconductor fabrication facilities and hyperscale data centers consume substantial quantities of electricity and water while requiring highly reliable infrastructure. Continued investment in renewable energy, electricity transmission, water security, and digital connectivity will therefore be essential to maintaining Malaysia's attractiveness as a technology investment destination.
- Innovation also remains an area requiring further development. While Malaysia possesses considerable strengths in manufacturing execution, opportunities remain to deepen domestic capabilities in research and development, intellectual property creation, and semiconductor design. Moving further up the value chain will require stronger collaboration between universities, research institutions, and private industry.
- Ultimately, the next phase of Malaysia's industrial development will depend not only on attracting investment, but also on increasing domestic technological capabilities and creating a more innovation-driven manufacturing ecosystem.

Key Risks

- Despite a constructive medium-term outlook, several downside risks could affect both global manufacturing and Malaysia's industrial performance.
- **A Sharper-Than-Expected Correction in AI Investment** - The most significant risk to the current manufacturing cycle is a material slowdown in AI-related capital expenditure. Current industrial

momentum has become increasingly dependent on investment by a relatively small number of global technology companies. Should AI monetization prove slower than expected, or financial conditions tighten significantly, technology firms could delay expansion plans, resulting in weaker semiconductor demand and slower manufacturing growth.

- **Semiconductor Cycle Normalization** - Historically, semiconductor markets have been characterized by pronounced boom-and-bust cycles. While AI has extended the current upcycle, eventual capacity expansion across the industry may result in supply catching up with demand. A more balanced market would likely moderate pricing power and reduce export growth across semiconductor-producing economies, including Malaysia.
- **Geopolitical Fragmentation** - Although geopolitical tensions in the Middle East have eased compared with earlier periods, broader strategic competition between major economies remains elevated. Additional export controls on advanced technologies, supply-chain disruptions or renewed trade restrictions could affect investment decisions and global semiconductor trade flows.
- **Infrastructure Constraints** - Rapid expansion of semiconductor manufacturing and data centers will significantly increase demand for electricity, water resources, and specialized industrial infrastructure. Delays in expanding these supporting facilities could constrain future investment and reduce Malaysia's competitiveness relative to regional peers.
- **Talent and Skills Shortages** - The success of Malaysia's semiconductor ambitions will increasingly depend on human capital. Persistent shortages of engineers, software developers and highly skilled technical workers could become an important bottleneck if workforce development does not keep pace with investment.

Economic and Investment Implications

- The AI-driven manufacturing cycle carries important implications across multiple sectors of the Malaysian economy.
- For the broader economy, continued expansion in semiconductors, electronics exports and digital infrastructure should support higher private investment, stronger manufacturing value-added and sustained export growth. These developments are expected to reinforce Malaysia's medium-term GDP growth while improving productivity and strengthening external balances.
- For the manufacturing sector, companies participating in semiconductor assembly, advanced packaging, industrial automation, precision engineering, and specialized machinery appear well positioned to benefit from continued AI-related investment. Increasing localization of supply chains should also create opportunities for domestic suppliers to move into higher value-added activities.
- For infrastructure-related industries, data center expansion is expected to generate sustained demand for construction, utilities, industrial property, telecommunications infrastructure, and engineering services. These sectors are likely to experience structural rather than purely cyclical growth as digital infrastructure becomes increasingly important to economic development.
- For the financial sector, stronger capital expenditure should support corporate lending, project financing, trade finance, and treasury activities. Banks with meaningful exposure to manufacturing,

infrastructure and technology investments are likely to benefit from increased financing demand while maintaining relatively favorable asset quality, given the strategic nature of many investment projects.

- For investors, Malaysia increasingly represents a diversified technology investment story rather than a narrow semiconductor theme. Opportunities extend across the broader ecosystem, including technology manufacturers, industrial engineering companies, utilities, telecommunications providers, construction firms, industrial REITs and logistics operators, reflecting the wide-ranging economic spillovers generated by AI infrastructure investment.

Conclusion

- The global manufacturing landscape is undergoing its most significant transformation in more than a decade. Artificial intelligence has evolved beyond technological innovation into a powerful catalyst for reshaping industrial production, global trade, and capital allocation. Rather than being driven by broad-based consumer demand, the current manufacturing expansion is increasingly supported by sustained investment in semiconductors, data centers, cloud infrastructure, and advanced electronics, creating a new generation of industrial winners.
- This transformation is also producing a widening divide across the global economy. Countries with deep integration into AI-related supply chains are experiencing stronger factory activity, export performance, and investment inflows, while those with limited exposure to advanced manufacturing are seeing more subdued industrial growth. The manufacturing cycle is therefore becoming increasingly structural rather than cyclical, with technological capability emerging as a more important determinant of industrial competitiveness than traditional cost advantages.
- Malaysia is well positioned to capitalize on this structural realignment. Supported by its mature semiconductor ecosystem, expanding electrical and electronics industry, accelerating data center investments and proactive industrial policies, the country has strengthened its role within global technology supply chains. Recent improvements in manufacturing PMI, industrial production and exports are not merely signs of cyclical recovery but early evidence of a broader industrial transformation that could reshape Malaysia's growth trajectory over the coming decade.
- Nonetheless, sustaining this momentum will require continued policy execution and structural reforms. Investments in talent development, digital infrastructure, energy security, water resilience, and innovation will be critical to ensuring Malaysia moves further up the semiconductor value chain and captures a greater share of high-value manufacturing activities. If these challenges are addressed successfully, Malaysia will be well placed to convert today's AI investment boom into a durable source of productivity growth, export competitiveness, and long-term economic prosperity.