Technology

Strengthening the Semiconductor Ecosystem

NEUTRAL

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By Cheow Ming Liang I cheowml@kenanga.com.my

We hosted the Malaysia Semiconductor Industry Association (MSIA) for a discussion on the outlook and future direction of Malaysia's semiconductor industry. We gleamed that despite mounting global uncertainties, Malaysia has continued to attract strong foreign direct investment (FDI) interest, particularly from semiconductor firms looking to diversify supply chains amid US-China trade tensions. The country's neutral stance, well-developed infrastructure, and pro-business policies highlight it as a key hub for advanced semiconductor manufacturing, packaging, and fabrication. The government is actively supporting industry growth, including a recent USD250m partnership with ARM Holdings to expand chip design capabilities, signalling a move up the semiconductor value chain.

However, talent shortage remains a critical challenge, as highlighted in the MSIA Semiconductor Quarterly Pulse Survey (4Q 2024), with 72% of companies actively hiring engineers and IC designers. To address this, the National Semiconductor Strategy (NSS) has earmarked funds to train 60,000 engineers by 2030. On a positive note, STEM enrolment has risen to 50.83% in 2024. Despite workforce constraints, Malaysia is well-positioned to strengthen its semiconductor ecosystem, provided that investment policies, talent development, and industry expansion are effectively executed. All in, we remain NEUTRAL on the sector. KGB (OP, TP: RM4.33) is still our top pick for the sector due to its strong earnings visibility underpinned by robust order and tender books.

Malaysia's strategic position & policy directions. MSIA foresees several opportunities that could emerge in Malaysia's semiconductor sector in the coming months, despite the global industry facing uncertainty over the next six months due to persistent US-China tensions and evolving tariff policies. According to MSIA, Malaysia has seen a growing number of enquiries from companies looking to establish or expand their operations in the country. Meanwhile, several Chinese semiconductor firms are also exploring increased investments in Malaysia to diversify supply chains, mitigate trade restrictions, and establish "China for the World" operations. These companies aim to leverage Malaysia's robust infrastructure to facilitate global exports. Malaysia has maintained a neutral stance amid geopolitical tensions. Instead, the country remains focused on driving economic growth by fostering a pro-business environment that attracts foreign investments. Moreover, MSIA highlighted that Malaysia is actively pursuing high-value foreign direct investments while encouraging collaboration between local private sectors and the government to strengthen and develop a robust semiconductor ecosystem, particularly in advanced packaging.

Moving up the value chain. To attract semiconductor investments, Malaysia is focusing on several key strategies, including strengthening government incentives for integrated circuit (IC) design, improving supply chain resilience to support high-end semiconductor manufacturing, and attracting semiconductor fabrication (fab) investments. Notably, Malaysia has committed USD250m over 10 years in a strategic partnership with ARM Holdings recently to access chip design blueprints and training, aiming to transition from chip assembly and testing (back-end) to high-value semiconductor design and production. Additionally, the government is also prioritising research and development (R&D) initiatives and talent development to foster long-term industry growth. Please refer to our *"Kilang to IP" shot in the ARM to Semiconductor Field* note dated 6 March for more information.

Strategic recommendations for industry growth. To solidify its position in the global semiconductor industry, MSIA is of the view that Malaysia needs to develop a comprehensive roadmap that enhances local IC design capabilities and reduce reliance on foreign players. Greater investment in the semiconductor supply chain is essential to strengthen resilience and attract suppliers from key markets. Additionally, bringing in leading foreign semiconductor fabrication plants will be crucial in enhancing Malaysia's competitiveness and fostering a self-sustaining semiconductor ecosystem.

The government and industry stakeholders must collaborate on talent development initiatives, including industry-academic partnerships and specialised upskilling programmes. To further strengthen Malaysia's semiconductor industry, policies such as tax incentives, research grants, and targeted funding will be essential in attracting global technology players and fostering local innovation. While Malaysia has a strong semiconductor foundation, the country must accelerate technological adoption, talent development, and infrastructure investments to maintain its competitive edge in the rapidly evolving global market.

Talent is key to business sustainability. During the meeting, a question that was raised included how should Malaysian government rethink the incentive model for moving up the value chain, such as IC design, and that would involve pivoting away from the typical tax incentive mindset to one of attracting and retaining talent. Among the ESG components, talent development is a constant concern for the semiconductor industry. Key findings in the *MSIA E&E/ Semiconductor Quarterly Pulse Survey (4Q 2024)* showed that talent - specifically a shortage of engineers and IC designers - and market competition remained the top challenges for the industry. The survey also revealed that 72% of companies were hiring engineers and technicians in 1QCY25, a trend that has continued from previous quarters, indicating a continuous need for talent.

Talent is critical for Malaysia's semiconductor industry to stay competitive and sustainable as other countries are pouring resources to stay abreast of the current demand for more sophisticated chips. The recent RM1,1b collaboration on IC design with ARM Holdings plc further underscore the importance of having the right talent to ensure Malaysia move up the semiconductor value chain while enhancing the country's global competitiveness. There are an estimated 10,000 to 15,000 IC designers in Malaysia currently. However, most of them are working in multinational corporations, the likes of Intel and Infineon, and it is a challenge to coax these experienced personnel out of their comfort zone and venture into a new start-up. Hence, talent is mostly concentrated in the already well-established multinational corporations.

The MSIA survey in 2022 revealed that the average monthly salary in the E&E industry (where the semiconductor sector constitutes over 60%) is RM6,450, about double of the national average of RM3,307. However, only 0.3% of E&E workforce hold an advanced degree, indicating potential for further growth.

In its ongoing dialogue with the Malaysian government, the MSIA has suggested various ways to ensure a healthy pipeline of talent. These include the setting up of a university focusing on science, technology, engineering and mathematics (STEM) via international collaboration to nurture talent, facilitating the hiring of foreign STEM students studying in Malaysia to tap into the existing pool of ready workforce, providing the right incentives and opportunities to attract foreign talent (starting from students) and encouraging semiconductor players to intensify training and upskilling programmes. Despite the shortage of talent, Malaysia still manages to maintain growth in the semiconductor space.

In the National Semiconductor Strategy (NSS) announced last year, the government has earmarked about 10% of the RM25b allocation to train and upskill 60,000 engineers by 2030 to support advanced manufacturing, research and development, and technological advancements in the semiconductor industry, spearheaded by the Ministry of Human Resources (KESUMA) and Ministry of Higher Education (MOHE). Malaysia is also seeing a positive trend in STEM enrolment with 50.83% of upper secondary students in 2024 studying in related subjects, up from 40.95% in 2021.

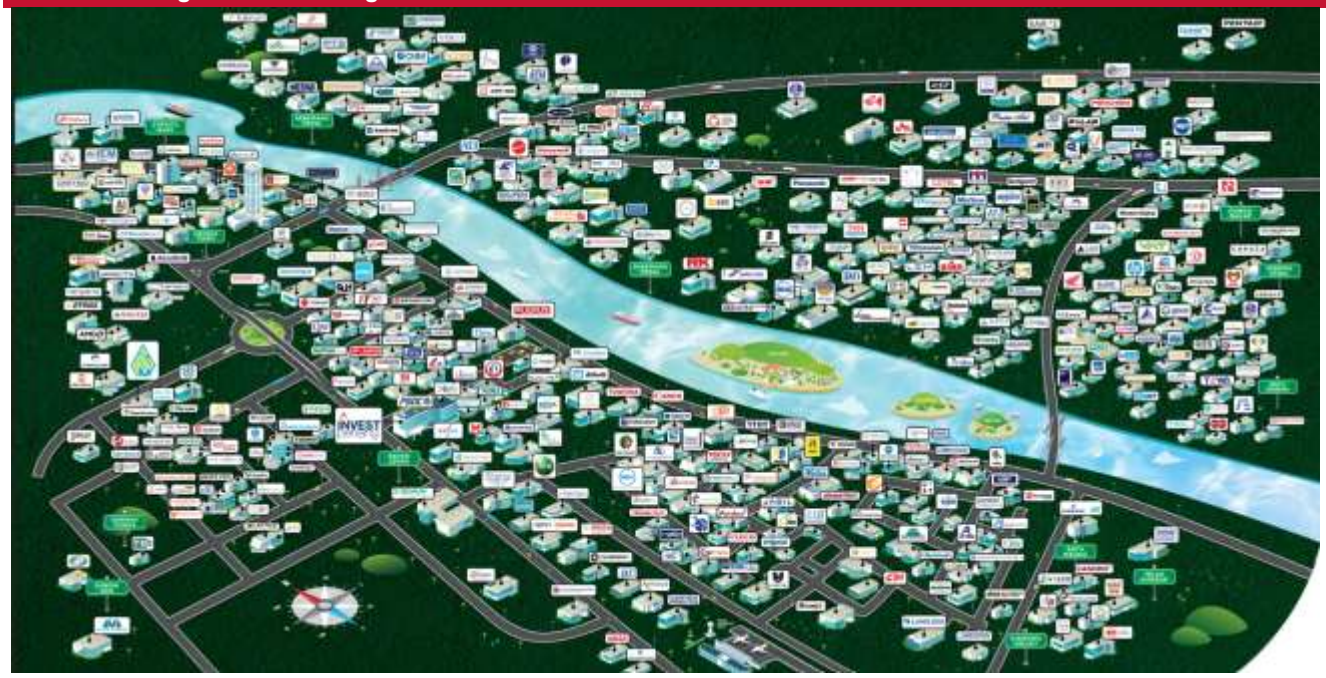
Exhibit 1: National Semiconductor Strategy

TARGET: TRAINING AND R&D HUB			
INITIATIVE	**ESTIMATION AMOUNT (RM/ BILLION)**	**DURATION (YEARS)**	**IMPLEMENTING MINISTRY / AGENCY**
Human Resources Development Fund (HRDF) (For the semiconductor sector)	1.25	6 (2025 - 2030)	KESUMA

TARGET: 60,000 HIGHLY SKILLED LOCAL ENGINEERS BY 2030			
INITIATIVE	**ESTIMATION AMOUNT (RM/ BILLION)**	**DURATION (YEARS)**	**IMPLEMENTING MINISTRY / AGENCY**
Estimated average cost of RM20,000 per engineer (Utilising existing funds)	1.2	6 (2025 - 2030)	MOHE/ KESUMA

Source: National Semiconductor Strategy, Kenanga Research

Exhibit 2: Vanguards of Penang's Industrial Transformation



Source: Invest Penang, Kenanga Research

Exhibit 3: Penang Supply Chain – Industry Players

Source: Invest Penang, Kenanga Research

Malaysian Technology Peers Comparison

Name	Rating	Last Price @ 21 Mar (RM)	Target Price (RM)	Upside	Mkt Cap (RM m)	Shariah Compliant	Current FYE	Core EPS (sen)		Core EPS Growth		PER (x) – Core Earnings		PBV (x)	ROE	Net. Div. (sen)	Net. Div. Yld
								1-Yr. Fwd.	2-Yr. Fwd.	1-Yr. Fwd.	2-Yr. Fwd.	1-Yr. Fwd.	2-Yr. Fwd.	1-Yr. Fwd.	1-Yr. Fwd.	1-Yr. Fwd.	1-Yr. Fwd.
D&O GREEN TECHNOLOGIES BHD	MP	1.44	1.20	-16.7%	1,784.9	Y	12/2025	5.4	5.6	69.4%	3.3%	26.7	25.8	1.8	7.1%	1.0	0.7%
INARI AMERTRON BHD	MP	2.01	2.80	39.3%	7,615.8	Y	06/2025	7.4	9.0	-9.7%	21.9%	27.3	22.4	2.8	7.1%	8.0	4.0%
KELINGTON GROUP BHD	OP	3.33	4.33	30.0%	2,413.5	Y	12/2025	20.4	19.9	25.4%	13.4%	16.3	16.7	3.7	26.6%	10.0	3.0%
LGMS BHD	MP	0.880	1.00	13.6%	401.3	Y	12/2025	3.3	3.8	22.8%	13.2%	26.6	23.5	3.9	15.3%	2.0	2.3%
M'SIAN PACIFIC INDUSTRIES BHD	OP	18.00	26.75	48.6%	3,589.2	Y	06/2025	83.6	99.1	32.0%	18.6%	21.5	18.2	1.6	7.8%	35.0	1.9%
NATIONGATE HOLDINGS BHD	OP	1.38	2.21	60.1%	3,141.8	Y	12/2025	9.2	9.4	19.5%	2.3%	15.0	14.6	2.9	21.1%	2.0	1.4%
OPPSTAR BHD	OP	0.610	0.560	-8.2%	390.8	Y	03/2025	(1.0)	1.5	-141.3%	53.1%	N.A.	39.7	2.8	-4.4%	0.0	0.0%
P.I.E. INDUSTRIAL BHD	OP	4.01	5.52	37.7%	1,540.0	Y	12/2025	25.6	28.6	84.9%	11.9%	15.7	14.0	2.1	14.3%	0.0	0.0%
SKP RESOURCES BHD	OP	0.905	1.24	37.0%	1,413.9	Y	03/2025	7.6	8.6	22.4%	13.9%	11.9	10.5	1.3	11.4%	0.0	0.0%
UNISEM (M) BHD	UP	1.99	1.45	-27.1%	3,210.0	Y	12/2025	5.4	5.5	42.8%	2.5%	37.0	36.1	1.5	3.9%	8.0	4.0%
Simple Average					**25,501.2**					**17.5%**	**14.2%**	**21.5**	**18.8**	**2.4**	**11.0%**		**1.7%**

Source: Kenanga Research

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Stock Ratings are defined as follows:

Stock Recommendations

OUTPERFORM	: A particular stock's Expected Total Return is MORE than 10%
MARKET PERFORM	: A particular stock's Expected Total Return is WITHIN the range of -5% to 10%
UNDERPERFORM	: A particular stock's Expected Total Return is LESS than -5%

Sector Recommendations***

OVERWEIGHT	: A particular sector's Expected Total Return is MORE than 10%
NEUTRAL	: A particular sector's Expected Total Return is WITHIN the range of -5% to 10%
UNDERWEIGHT	: A particular sector's Expected Total Return is LESS than -5%

******Sector recommendations are defined based on market capitalisation weighted average expected total return for stocks under our coverage.***

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KENANGA INVESTMENT BANK BERHAD (15678-H)
Level 17, Kenanga Tower, 237, Jalan Tun Razak, 50400 Kuala Lumpur, Malaysia
Telephone: (603) 2172 0880 Website: www.kenanga.com.my E-mail: research@kenanga.com.my