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Technology Sector

Overweight (↔)

Malaysia's Homegrown Chip Ambitions with ARM

Executive Summary

- **Malaysia has signed a USD250m deal with ARM Holdings Plc to establish ARM's first ASEAN hub in Kuala Lumpur. This collaboration aims to elevate Malaysia from largely backend (OSAT) processes to higher-value chip design and IP generation.**
- **Government-procured Compute Subsystem (CSS) licenses, ARM Flexible Access (AFA) slots for startups, and a training program for 10,000 local engineers. Recipients of government subsidies must demonstrate local supply chain involvement, driving growth and innovation within Malaysia's semiconductor ecosystem.**
- **While local expertise gaps and commercial viability remain obstacles, the pivot toward design and IP generation aligns with broader ambitions to move beyond the OSAT era.**

We attended a meeting and launch hosted by the Ministry of Economic regarding the collaboration and establishment of a local base by the semiconductor giant - ARM. Below are the key takeaways.

Arm setting base in Malaysia. The Malaysian government has announced that ARM Holdings Plc - a leading chip design and architecture company from the UK - has signed an agreement to establish its first ASEAN hub in Kuala Lumpur. This USD250m (c.RM 1.1bn) deal is expected to help Malaysia develop and adopt advanced chip design blueprints.

Introduction of Arm. ARM, headquartered in Cambridge, England, is the world's largest designer of semiconductor IP. Its well-known architecture underpins numerous chips, including Apple's M-series, Qualcomm's Snapdragon line, AWS Graviton, and NVIDIA Grace Hopper.

Initiative to move up the value chain. We see this move as part of the government's broader strategy to pivot Malaysia toward higher-value semiconductor design and IP ownership. By progressing from predominantly back-end (OSAT) operations to the upstream segment and aims to capture ~60% value of the industry's total value chain. This aligns with the National Semiconductor Strategy (NSS) through a partnership with ARM.

Key collaboration between ARM and Malaysia. The government aims to reduce R&D barriers for domestic companies, encourage front-end innovation, develop thousands of highly skilled local engineers, and build entirely new technology supply chains in the country.

3 key components of the collaboration including: **i)** Government subsidy and procurement of 7 Compute Subsystem (CSS) licenses; **ii)** 25 slots of broad-based IP selection under ARM Flexible Access (AFA), and **iii)** A long-term training program to train 10,000 local engineers in chip design.

Compute Subsystem (CSS). The government is purchasing 7 CSS license, which represent partially complete system-on-chip (SoC) designs—about 75% complete. These include system IP, memory controllers, interconnects, and other foundational chip elements, reducing time-to-market from 3–4 years to about 1–1.5 years. As these designs are silicon-proven, they increase the likelihood of securing foundry capacity and achieving successful tape-out. The government subsidy for CSS IP allows design firms to focus on hiring talent, investing in EDA tools, and customizing their designs rather than bearing hefty licensing fees. The 7 CSS slots are likely to be allocated to industries such as cloud servers, automotive, autonomous vehicles, industrial automation, IoT, consumer electronics, and networking. Each CSS token could potentially spawn a new supply chain worth an estimated USD 30 billion if successfully commercialized. We opinie that due to the local expertise gap, recipients may be a mix of local champions and foreign-domestic joint ventures.

Broad-based IP selection/ARM Flexible Access (AFA). This is a broad library of ARM IP blocks that startups and smaller design teams can use to prototype and test product ideas without large,

immediate upfront payments. The government is acquiring 25 AFA slots to be allocated to local design houses. Aiming to bolstered these houses may eventually graduate to more advanced SoC development or gain access to CSS tokens.

Localisation of the supply chain. In return for receiving CSS tokens and government subsidies, recipients must demonstrate how they plan to localize and involve Malaysian vendors throughout the supply chain—from upstream to downstream. The foundry stage, however, is recognised as difficult to localise in the short term and is thus exempted.

Funding. Instead of traditional tax holidays or manufacturing grants, the government's new approach ties IP-subsidy recipients to key performance outcomes. The government will allocate USD250m (c.RM1.1 billion) over 10 years to ARM, disbursed upon achieving specific milestones. The RM1.1 billion is in addition to funds already allocated in the NSS. Government-linked investment companies (GLICs), such as Khazanah and KWAP, may also co-fund or invest in local chip-design ventures.

Time horizon. Within one year, ARM will establish its Kuala Lumpur hub, finalize the criteria for CSS and AFA token recipients, and launch a 10-year "Silicon Vision Blueprint." Over the next 1–3 years, Malaysia aims to train around 10,000 engineers, roll out more CSS and AFA allocations, and witness early tape-outs of AI, automotive, and IoT chips. By the 5–10 year mark, the goal is a balanced 50–50 local-to-foreign mix in advanced manufacturing, the emergence of billion-dollar local design champions, and a robust end-to-end semiconductor ecosystem.

OSAT and EMS are main beneficiaries. This strategic pivot aligns with the NSS, shifting Malaysia from labour-intensive backend semiconductor assembly towards higher-value design and IP generation. The government has not disclosed the specific criteria for CSS token recipients, but at the current juncture, we believe local OSAT and EMS players stand to benefit from this development on the requirement of localization throughout the supply chain.

Our thoughts. We see this as a long-term development with limited near-term catalysts, partly due to execution risks such as the local expertise gap in SoC architecture and chip design. Additionally, the commercial viability of attracting large-scale buyers or product integrators to adopt Malaysian-designed chips remains a challenge. However, if successful, this endeavor could herald a second semiconductor wave—beyond the OSAT era—propelling Malaysia into the front-end of semiconductor innovation and revitalizing the entire local supply chain.

Keeping Overweight stance. While we remain cautious on the technology sector in the near term due to weak sentiment and external headwinds - particularly the potential imposition of Trump-era tariffs on Malaysia's exports, we view the current valuation as presenting attractive risk-reward opportunities. Near-term semiconductor demand remains resilient, supported by a generally improving global economic outlook and a low global interest-rate environment. Further, we maintain out stance that Malaysia may continue to benefit from supply chain diversification from relocation of companies amid ongoing Sino-US tensions. These factors reinforce our **Overweight** stance on the sector, with selective opportunities for re-entry into fundamentally strong technology names. Our top picks for the technology sectors are Inari Amertron Berhad (**BUY; TP RM 3.53**) and Aurelius Technologies Berhad (**BUY; TP RM 4.17**).

Recommendation Framework:
BUY: Total returns* are expected to exceed 10% within the next 12 months.
HOLD: Total returns* are expected to be within +10% to – 10% within the next 12 months.
SELL: Total returns* are expected to be below -10% within the next 12 months.
TRADING BUY: Total returns* are expected to exceed 10% within the next 3 months.
TRADING SELL: Total returns* are expected to be below -10% within the next 3 months.
*Capital gain

Sector Recommendations:
OVERWEIGHT: The industry defined by the analyst is expected to exceed 10% within the next 12 months.
NEUTRAL: The industry defined by the analyst is expected to be within +10% to – 10% within the next 12 months.
UNDERWEIGHT: The industry defined by the analyst, is expected to be below -10% within the next 12 months.

ESG Rating Framework:
★★★★★ : Appraised with 3% premium to fundamental fair value
★★★★ : Appraised with 1% premium to fundamental fair value
★★★ : Appraised with 0% premium/discount to fundamental fair value
★★ : Appraised with -1% discount to fundamental fair value
★ : Appraised with -5% discount to fundamental fair value

As of **Thursday, 06 Mar, 2025**, the analyst(s), whose name(s) appears on the front page, who prepared this report, has interest in the following securities covered in this report:
(a) nil.