

POLICY COMMENTARY

Mandatory synchronization of export control and tariff classifications under STS Circular No. 2/2024: legal basis, operational implications, and policy significance under Malaysia's Strategic Trade Act 2010

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Abstract

Malaysia has introduced a mandatory requirement to synchronize Strategic Items List Category Codes (SIL CC), Malaysia's equivalent of Export Control Classification Number (ECCN) information with Tariff Code / Harmonized Tariff System (TC/HTS) information within the STA 2010 e-Permit process, pursuant to Strategic Trade Secretariat Circular No. 2/2024. In this commentary, "mandatory synchronization" refers to the requirement, where a strategic-trade permit application is required, for applicants to declare and cross-validate the applicable export-control classification and the corresponding customs tariff classification for the same product. The requirement does not imply that the two classification systems are identical or that a one-to-one relationship is technically possible. The article is presented as a policy commentary and does not seek to provide an empirical evaluation of regulatory outcomes. Rather, it examines the legal and policy rationale, classification relationship, operational implications, enforcement

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relevance, implementation considerations, and broader policy significance of the synchronization requirement introduced under STS Circular No. 2/2024, particularly in relation to dual-use and high-technology sectors such as semiconductors, artificial intelligence, and advanced electronics. It argues that synchronization is best understood as a preventive classification-validation and regulatory-data mechanism. It may improve traceability, reduce inconsistencies within the licensing process, and provide a stronger information basis for risk assessment and subsequent compliance activities. However, it cannot eliminate the structural differences between export control and customs classification systems, nor can it resolve enforcement risks arising from exporters who never enter the licensing process. This policy commentary therefore distinguishes between intended policy benefits, operational mechanisms, and outcomes that require empirical evidence for confirmation.

Keywords

Strategic Trade Management (STM); Strategic Items List (SIL) Category Code (CC) / Export Control Classification Numbers (ECCN); Tariff Codes / Harmonized Tariff System (TC/HTS); Malaysia Strategic Trade Act 2010 (STA 2010); MITI Strategic Trade Secretariat (STS); Export Control–Customs Integration; High-Technology Trade Controls; Semiconductor and AI Export Regulation.

Introduction

In today's global economy, characterized by complex, interconnected supply chains and the rapid evolution of high-technology industries, national export control regimes face unprecedented challenges. Governments must strike a careful balance between facilitating legitimate international trade and preventing the proliferation of sensitive technologies and materials that could be diverted to unauthorized users, including actors seeking to develop weapons of mass destruction (WMD) or advanced military capabilities.¹ This balancing act is further complicated by the increasing pace of technological advancement, particularly in areas such as semiconductors, artificial intelligence, advanced electronics, and biotechnology, where dual-use applications are prevalent.²

Historically, export control systems and customs tariff regimes have operated largely in parallel³—with limited coordination between the security-focused classification of Export Control Classification Numbers (ECCN) of strategic items and the trade-focused categorization of goods under Tariff Codes / Harmonized Tariff System (TC/HTS).⁴ While customs systems are designed primarily for trade facilitation, taxation, and statistical reporting classifying goods based on their physical characteristics, commercial description, or standard product codes, export controls adopt a risk-based, security-oriented perspective, emphasizing functional capabilities, technical specifications, and potential misuse scenarios. This structural misalignment has introduced several challenges:

- a) Enforcement Vulnerabilities – Although complete alignment between security classifications and customs tariff codes is not feasible due to their differing objectives and structures, insufficient correspondence between the two systems can create enforcement challenges making it more difficult for regulatory

¹ U.N. Security Council Resolution 1540 (April 2004); Malaysia Strategic Trade Act 2010 (Act 708).

² Ryo Makioka, Hongyong Zhang, "The impact of export controls on international trade: Evidence from the Japan–Korea trade dispute in semiconductor industry," *Journal of the Japanese and International Economies*, Vol. 74 (2024); Amirah Aisha and Nor Ashikin Mohamed Yusof, "Strategic Governance of AI and Intangible Technology Transfers in ASEAN: Dual-Use Risks and Diplomatic Pathways for Regional Security," *The Journal of Diplomacy and Foreign Relations*, Vol. 22 No. 1 (2025).

³ Hyuk Kim, "Enhancing the Interface between the Harmonized System and Strategic Trade Controls," *Strategic Trade Review*, Issue 3 (Autumn 2016), pp 69-75.

⁴ U.S. Department of Commerce, Bureau of Industry and Security, Export Administration Regulations; World Customs Organization, Harmonized Commodity Description and Coding System.

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authorities to detect unauthorized exports and identify shipments requiring enhanced scrutiny.⁵

- b) Industry Compliance Uncertainty – Exporters may struggle to determine the correct classification for strategic items, resulting in inadvertent non-compliance or over-cautious reporting that slows trade.⁶
- c) Over-Reliance on Post-Export Audits – In the absence of integrated control mechanisms, authorities often depend heavily on retrospective checks, which are less efficient, reactive, and resource-intensive.⁷

Recognizing these challenges, Malaysia enacted the Strategic Trade Act 2010 (hereinafter the STA 2010⁸) to provide a comprehensive and risk-oriented legal framework for the export, transshipment, transit, and brokering of strategic items. The STA 2010 establishes clear regulatory obligations for industry while empowering the government to safeguard national security and fulfill international non-proliferation commitments. Its framework emphasizes the Strategic Items List (SIL) as the principal tool for categorizing controlled goods based on technical attributes, functional performance, and potential security risks, rather than purely commercial characteristics.⁹

A significant recent development under this framework is the mandatory synchronization of Strategic Items List Category Codes (SIL CC), which serves as Malaysia's equivalent of Export Control Classification Numbers (ECCN), with Tariff Codes / Harmonized System (HS) Codes (TC/HTS) within Malaysia's STA 2010 e-Permit process. In this context, "mandatory synchronization" refers to the regulatory requirement, where a permit application is required, for applicants to declare the applicable export-control classification and corresponding tariff classification for the same product and to ensure that the relationship between them is technically consistent and capable of explanation. It does not require the two systems to produce identical classifications or establish a one-to-one relationship. The requirement is therefore better understood as a structured cross-validation and regulatory-data linkage mechanism.

⁵ Kim, "Enhancing the Interface between the Harmonized System and Strategic Trade Controls," pp 69-75.

⁶ George Tan, "Singapore's Journey Towards its Implementation of Strategic Trade Controls," *Strategic Trade Review*, Issue 2 (Spring 2016), pp 90-104.

⁷ Mohamed Shahabar Abdul Kareem, "Implementation and Enforcement of Strategic Trade Controls in Malaysia," *Strategic Trade Review*, Issue 2 (Spring 2016).

⁸ Ministry of Investment, Trade and Industry Strategic Trade Act 2010 (Act 708).

⁹ Ministry of Investment, Trade and Industry, Strategic Trade (Strategic Items) List 2023.

In essence, this integration reflects Malaysia's commitment to modernizing its export control system, ensuring it remains capable of responding to evolving security threats, technological advancements, and global trade dynamics, while simultaneously supporting legitimate trade, industrial competitiveness, and adherence to international non-proliferation obligations. It signals a shift toward a more proactive, transparent, and risk-based approach, where government and industry operate in closer alignment to manage sensitive trade responsibly.

Overview of the Strategic Trade Act 2010

The STA 2010 represents Malaysia's comprehensive legislative framework designed to regulate the export, trans-shipment, and brokering of strategic items. Its introduction was driven by two primary objectives: first, to ensure Malaysia fulfills its international non-proliferation commitments¹⁰—including obligations under the United Nations Security Council Resolution 1540 (UNSCR 1540), and other multilateral export control regimes; and second, to protect Malaysia's status as an open, competitive, and trade-reliant economy while mitigating the risks associated with the proliferation of WMD and other destabilizing technologies.

The Act applies to a broad spectrum of strategic items, encompassing military goods, dual-use technologies, advanced computing systems, sensitive chemicals, and other controlled materials that, if diverted, could contribute to the development of WMD programs or enhanced military capabilities.¹¹ The scope of the STA 2010 therefore goes beyond conventional arms control, reflecting the evolving global security landscape where non-state actors and emerging technologies present new proliferation risks.

Permit requirements under the STA 2010 are primarily determined through reference to the SIL¹²—which serves as the core regulatory tool for categorizing controlled items. As discussed earlier, the SIL differs from customs tariff classification in that it focuses on strategic sensitivity and technical capability rather than commercial categorization. Items are classified according to technical specifications, performance thresholds, and functional capabilities, with particular attention to attributes that could enhance WMD delivery systems, advanced military operations, or other sensitive applications.

¹⁰ U.N. Security Council Resolution 1540 (April 2004).

¹¹ Ministry of Investment, Trade and Industry, Strategic Trade (Strategic Items) List 2023.

¹² Ministry of Investment, Trade and Industry, Strategic Trade (Strategic Items) List 2023.

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This distinction between the SIL and conventional customs systems underscores a critical compliance challenge: the need for careful alignment between STA SIL CC/ECCN and TC/HTS. While TC/HTS codes facilitate trade and revenue collection by identifying goods in standardized categories, they do not capture the nuanced security risks associated with strategic items. Consequently, exporters must engage in deliberate and well-documented processes to reconcile the risk-based, security-oriented SIL classification with the more general, commercially-oriented customs codes, ensuring that shipments are compliant, transparent, and defensible in the event of regulatory or enforcement scrutiny.

Beyond permit issuance, the STA 2010 provides a framework for enforcement, compliance monitoring, and inter-agency coordination, enabling regulatory authorities to manage the export of sensitive items without unnecessarily restricting legitimate trade. It also establishes clear obligations for exporters, brokers, and re-exporters, including licensing requirements, record-keeping, and reporting duties, which collectively serve to mitigate proliferation risks while promoting a culture of responsible trade.

In essence, the STA 2010 balances Malaysia's international security commitments with its economic interests, creating a legal and operational infrastructure that allows the country to participate in global trade safely, responsibly, and competitively. Its risk-based orientation, anchored in the SIL, reflects modern export control principles that prioritize security and non-proliferation while accommodating the realities of complex global supply chains and technologically advanced goods.¹³

Institutional role of MITI and the Strategic Trade Secretariat

The Ministry of Investment, Trade and Industry (MITI), through its operational arm, the Strategic Trade Secretariat (STS), plays a pivotal role in Malaysia's strategic trade control ecosystem. Under the STA 2010, MITI, via the STS, is entrusted with the administration, enforcement, and continuous refinement of Malaysia's strategic export control framework. The STS's mandate extends beyond mere permit issuance; it encompasses regulatory interpretation, guidance provision to industry stakeholders, compliance oversight, and active engagement with both domestic and international enforcement partners, including the Royal

¹³ Kareem, "Implementation and Enforcement of Strategic Trade Controls in Malaysia."

Malaysian Customs Department (RMCD), the Malaysian Police, and relevant security agencies.

A critical component of the STS's operational approach is its emphasis on industry engagement and risk-based oversight.¹⁴ By maintaining structured communication channels with exporters, manufacturers, and technology providers, the STS ensures that strategic trade regulations are not only legally binding but also practically implementable. This engagement also allows the Secretariat to monitor emerging technologies, identify potential areas of dual-use concern, and provide targeted guidance to sectors dealing with sensitive items, including electronics, semiconductors, and advanced computing systems.

The recent requirement to synchronize TC/HTS codes within the STA e-Permit system—formalized in STS Circular No. 2/2024¹⁵—reflects a strategic policy decision aimed at enhancing coherence between export permit controls and customs enforcement mechanisms. Under this policy, applicants are required to declare and synchronize both their SIL CC/ECCN classification and their corresponding TC/HTS classification at the permit application stage. This measure addresses a longstanding challenge in trade compliance: the potential misalignment between regulatory permit classifications and customs declarations, which can create enforcement ambiguities, increase the risk of non-compliance, and complicate inter-agency coordination.

By requiring upfront synchronization of SIL CC/ECCN and TC/HTS, the STS seeks to achieve several objectives:

- a) Reduced Ambiguity – Clear linkage between permit classifications and customs codes helps reduce misinterpretation and facilitates a more consistent understanding across regulatory authorities and industry participants.¹⁶
- b) Enhanced Risk Assessment – Pre-declared classifications allow the STS to apply targeted risk-based controls, identifying potentially sensitive exports for further scrutiny.¹⁷
- c) Strengthened Inter-Agency Coordination – Customs authorities, enforcement agencies, and the STS can share a unified dataset,

¹⁴ Ministry of Investment, Trade, and Industry, *Strategic Trade Act 2010: Frequently asked questions*, STS (ed.) Kuala Lumpur (2010).

¹⁵ Ministry of Investment, Trade, and Industry, Circular of the Strategic Trade Controller No. 2/2024 on Tariff Code Registration in the E-Permit STA System, (Kuala Lumpur, Malaysia, 2025).

¹⁶ Kim, "Enhancing the Interface between the Harmonized System and Strategic Trade Controls," pp 69-75.

¹⁷ Kareem, "Implementation and Enforcement of Strategic Trade Controls in Malaysia."

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improving the accuracy of inspections, audits, and enforcement actions.¹⁸

- d) Improved Industry Compliance – Providing a clear, standardized requirement helps exporters self-assess compliance before shipment, reducing inadvertent violations and fostering a culture of regulatory responsibility.¹⁹

In sum, MITI, through the STS, functions as both a regulatory authority and an industry partner, balancing the imperatives of national security, international obligations, and trade facilitation. The integration of TC/HTS synchronization within the e-Permit system exemplifies the STS's proactive approach to modernizing Malaysia's strategic trade compliance infrastructure, ensuring that the country remains aligned with global best practices in dual-use goods and technology control.²⁰

Export Control Classification and Customs Tariff Systems

The Export control classification systems, including SIL CC/ECCN, are fundamentally designed to assess and manage strategic sensitivity rather than commercial identity.²¹ These systems focus on the underlying technological capability of an item and its potential contribution to military, proliferation, or advanced strategic applications. In determining control status, export control authorities examine not merely the physical description of a product, but also its functional performance, design intent, and potential end-use or end-user.²² Technical parameters such as processing speed, precision, resolution, signal bandwidth, computational capacity, accuracy, and integration into sensitive systems often play a decisive role in determining whether an item falls within a controlled category.²³ As a result, export control classifications are inherently qualitative and risk-based, reflecting national and international security considerations rather than commercial or fiscal objectives.

In contrast, the TC/HTS represents a globally standardized framework established to support international trade facilitation, customs revenue

¹⁸ Tan, "Singapore's Journey Towards its Implementation of Strategic Trade Controls," pp 90-104.

¹⁹ Ministry of Investment, Trade, and Industry, *Strategic Trade Act 2010: Frequently asked questions*.

²⁰ Kim, "Enhancing the Interface between the Harmonized System and Strategic Trade Controls."

²¹ Kim, "Enhancing the Interface between the Harmonized System and Strategic Trade Controls."

²² Ministry of Investment, Trade and Industry, *Strategic Trade (Strategic Items) List 2023*.

²³ Ministry of Investment, Trade and Industry, *Strategic Trade (Strategic Items) List 2023*.

collection, and the generation of trade statistics.²⁴ TC/HTS classification is structured around objective and observable product characteristics, including physical form, material composition, and principal function as presented at the time of import or export. While tariff classification rules provide a high degree of consistency and predictability for customs purposes, they are not designed to differentiate products based on strategic sensitivity or potential downstream use. Consequently, tariff headings and subheadings are often intentionally broad, encompassing a wide range of products that share basic physical or functional similarities but differ substantially in terms of technological sophistication or security relevance.

This fundamental divergence in purpose and methodology between export control classification and customs tariff classification gives rise to structural mismatches.²⁵ A single tariff code may legitimately include products ranging from low-end commercial items to highly advanced or sensitive technologies.²⁶ For example, electronic integrated circuits, measuring instruments, or machinery components may be grouped together for tariff purposes, even though certain variants possess capabilities that warrant export control scrutiny while others do not. In such cases, tariff classification alone provides insufficient granularity to signal strategic risk to enforcement authorities.

Because export-control and customs classification systems serve different purposes, differences between SIL CC/ECCN and TC/HTS classifications are expected and do not, by themselves, indicate an error. The compliance challenge is to ensure that the classifications relate to the same product and are supported by consistent underlying information. In the case of certain dual-use chemicals, for example, the customs tariff code may remain unchanged across different concentrations while the export-control status may change when a control-list threshold is met.²⁷ This illustrates why tariff classification alone cannot determine strategic-control status and why both systems must continue to be assessed according to their respective rules.

Moreover, the lack of synchronization complicates inter-agency coordination and increases reliance on post-export audits or enforcement actions to identify inconsistencies. These reactive mechanisms are inherently less effective than preventive controls applied at the permit stage and often result in increased compliance costs, shipment delays, or

²⁴ World Customs Organization, *HS Explanatory Notes*.

²⁵ Kim, "Enhancing the Interface between the Harmonized System and Strategic Trade Controls."

²⁶ CIRCABC, Dual use correlation table.

²⁷ Ministry of Investment, Trade and Industry, Strategic Trade (Strategic Items) List 2023.

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enforcement disputes after goods have already moved. By contrast, mandatory synchronization addresses the risks arising from unmanaged differences between export control and tariff classifications by requiring exporters to demonstrate a transparent and defensible relationship between the classifications before shipments occur.²⁸

Malaysia's requirement for explicit synchronization between CC/ECCN and TC/HTS should be understood as a regulatory response to this long-standing structural challenge.²⁹ By requiring applicants to demonstrate a coherent relationship between security-driven and trade-driven classification regimes, the STM framework helps ensure that strategic sensitivity is preserved across regulatory domains. This integration enhances regulatory visibility, improves enforcement coherence, and supports a more credible and effective control regime capable of managing the complexities of modern high-technology trade.

Mandatory SIL CC/ECCN-TC/HTS synchronization: legal and policy basis

The requirement for mandatory synchronization between SIL CC/ECCN and TC/HTS is grounded in the statutory and administrative architecture of the STA 2010.³⁰ The Act confers upon the competent authority, exercised through the STS under MITI, broad powers to regulate, control, and administer permit requirements for strategic items. These powers extend beyond the mere issuance of permits and encompass the establishment of procedural, documentary, and classification requirements necessary to ensure effective implementation and enforcement of the Act.

Within this legal framework, the STS possesses the administrative authority to prescribe how strategic items are to be declared, assessed, and reviewed during the permit application process. The issuance of STS Circular No. 2/2024 on the synchronization of TC/HTS in the STA e-Permit system represents a formal exercise of this authority. The circular clarifies that the declaration of TC/HTS is a mandatory component of permit applications and that such declarations must be coherent with the export control classification assigned under the SIL. This administrative directive reinforces the principle that export control compliance cannot be achieved solely through abstract classification exercises but must be

²⁸ Ministry of Investment, Trade, and Industry (2025) Circular of the Strategic Trade Controller No. 2/2024 on Tariff Code Registration in the E-Permit STA System.

²⁹ Ministry of Investment, Trade, and Industry (2025) Circular of the Strategic Trade Controller No. 2/2024 on Tariff Code Registration in the E-Permit STA System.

³⁰ Ministry of Investment, Trade and Industry Strategic Trade Act 2010 (Act 708).

operationally linked to how goods are declared and moved in international trade.

From a legal perspective, the circular does not create a new substantive control obligation outside the scope of the Act. Rather, it operationalizes the intent of the STA 2010 by ensuring that controlled items are accurately and consistently identified across regulatory systems that govern their export. By requiring synchronization between SIL CC/ECCN and TC/HTS classifications, the STS strengthens the evidentiary basis upon which permit decisions are made and ensures that enforcement authorities have a clear and consistent reference point throughout the export transaction lifecycle. The possibility of regulatory review, requests for clarification, or permit rejection in cases of inconsistency reflects a proportionate and procedurally grounded response aimed at preserving the integrity of the control system rather than imposing punitive measures.

From a policy standpoint, mandatory synchronization addresses a long-standing structural weakness in export control regimes, namely the separation between export licensing systems and customs tariff classification systems.³¹ In many jurisdictions, export controls are applied upstream at the licensing stage, while customs declarations occur downstream and are treated as distinct administrative processes. This separation creates opportunities for misalignment, whether inadvertent or deliberate, and complicates enforcement by requiring authorities to reconcile inconsistent classifications after the fact. Malaysia's approach directly addresses this challenge by embedding synchronization within the permit application workflow itself.

The framework does not eliminate the need for accurate SIL classification, which remains the fundamental compliance challenge. Rather, it seeks to improve the consistency, visibility, and validation of classification information once that determination has been made. In this respect, the synchronization requirement is best understood as a mechanism for strengthening classification governance and regulatory coherence rather than replacing the need for sound classification decisions.

By integrating tariff classification into the strategic trade permit process, Malaysia ensures that export control considerations are directly connected to trade execution realities. Tariff classification is no longer treated as a purely logistical or revenue-related function, but as an integral component of strategic trade compliance. This integration enhances transparency and accountability by requiring applicants to demonstrate,

³¹ Kim, "Enhancing the Interface between the Harmonized System and Strategic Trade Controls."

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at the point of permit application, that the export control classification and the customs declaration relate to the same product and are supported by a coherent and explainable classification rationale.

This policy choice reflects a preventive rather than reactive approach to STM.³² Instead of relying primarily on post-export audits or enforcement interventions to identify inconsistencies, the synchronization requirement compels potential issues to be addressed before shipments occur. In doing so, it reduces the likelihood of diversion, misclassification, or regulatory circumvention, while also minimizing disruption to legitimate trade. The approach aligns with the broader objectives of the STA 2010, which seeks not only to control strategic items but to do so in a manner that is predictable, enforceable, and supportive of Malaysia's role in global trade.

In sum, the legal and policy basis for mandatory SIL CC/ECCN–TC/HTS synchronization rests on a coherent interpretation of the STA 2010, the administrative authority of the STS, and a deliberate policy decision to integrate export control and customs functions. This framework strengthens regulatory effectiveness, enhances inter-agency coordination, and provides a clear and defensible foundation for Malaysia's advanced strategic trade management (STM) system.

Malaysia distinctive approach to Strategic Trade Management

In the global landscape of export controls and strategic trade regulation, most jurisdictions continue to operate export control licensing systems and customs tariff classification frameworks as parallel but largely independent regimes. While some efforts have been made to improve coherence between these systems, such measures have generally taken the form of guidance, best practices, or post-export enforcement mechanisms rather than binding regulatory requirements. The European Union, for example, has developed correlation tables that link entries in its Dual-Use Control List to Combined Nomenclature codes.³³ However, these correlation tools are explicitly non-binding and advisory in nature. They are intended to assist exporters in understanding possible relationships between control entries and tariff headings, but they do not impose an obligation to ensure alignment, nor do they form part of the permit approval criteria.

³² Kareem, "Implementation and Enforcement of Strategic Trade Controls in Malaysia."

³³ CIRCABC, Dual use correlation table.

Similarly, other major export control jurisdictions—including the United States and Japan³⁴—maintain structurally separate export control and customs systems. Export Control Classification Numbers are determined primarily for licensing purposes, while tariff codes are selected independently for customs declarations. Enforcement of alignment between these classifications is typically addressed through post-export audits, investigations, or enforcement discretion after discrepancies have been identified. While such approaches allow flexibility, they also create systemic vulnerabilities, including inconsistent classification practices, delayed detection of misalignment, and increased reliance on corrective rather than preventive controls.

Against this global backdrop, Malaysia's decision to mandate synchronization between SIL CC/ECCN and TC/HTS classifications represents a noteworthy example of regulatory integration and warrants consideration as a potentially innovative model for strategic trade management. Rather than treating the relationship between export-control and tariff classifications as an optional or interpretative exercise, Malaysia has embedded synchronization as a mandatory requirement within its STA 2010 permit application process. This policy choice reflects a deliberate shift toward preventive regulation, in which potential inconsistencies are addressed before exports occur, rather than after goods have entered international circulation.³⁵

By applying synchronization at the permit stage, Malaysia strengthens both regulatory integrity and operational predictability.³⁶ For regulators, the requirement enhances the quality of risk assessment by ensuring that export control determinations are directly linked to how items are declared and moved through customs. This improves inter-agency coordination, reduces ambiguity in enforcement, and provides a clearer evidentiary trail for compliance monitoring. For industry, the approach delivers greater certainty by clarifying expectations upfront and reducing the likelihood of shipment delays, enforcement interventions, or retrospective compliance challenges arising from classification discrepancies.

Importantly, Malaysia's approach is notable not merely for its procedural innovation but also for its strategic implications. The mandatory synchronization framework reflects an advanced level of STM maturity, demonstrating the ability to integrate security-driven and trade-driven

³⁴ U.S. Department of Commerce, Bureau of Industry and Security, Export Administration Regulations, 15 C.F.R. pts. 730–774; Kim, “Enhancing the Interface between the Harmonized System and Strategic Trade Controls.”

³⁵ Kareem, “Implementation and Enforcement of Strategic Trade Controls in Malaysia.”

³⁶ Ministry of Investment, Trade and Industry Strategic Trade Act 2010 (Act 708).

regulatory functions within a single coherent system. This capability is increasingly important as global supply chains shift toward high-technology, high-sensitivity sectors such as semiconductors, artificial intelligence, and advanced electronics, where small classification errors can have disproportionate security and compliance consequences.³⁷

By institutionalizing synchronization rather than relying on guidance or enforcement discretion, Malaysia offers an alternative regulatory model that may be relevant to both emerging and developed economies. The model illustrates how export control regimes can evolve beyond fragmented administrative structures toward integrated, digital, and transaction-based control systems. In doing so, Malaysia provides an instructive case study for jurisdictions considering closer integration between export-control and customs-classification systems.

Rationale for mandatory synchronization of SIL CC/ECCN and TC/HTS

Structural divergence between the two classification regimes

Malaysia's SIL, administered under the STA 2010, and TC/HTS administered by Royal Malaysian Customs, are founded upon fundamentally different regulatory philosophies and classification logics.³⁸ As discussed in Section 4, SIL and TC/HTS are based on different classification logics. SIL focuses on technical capability and strategic sensitivity, whereas TC/HTS focuses on product identification for customs purposes.

Because these systems were designed for different legal purposes and regulatory objectives, their classification outcomes do not align on a one-to-one basis.³⁹ This structural divergence explains why exporters cannot rely solely on either system when determining strategic-trade compliance and why a mechanism for cross-validation becomes necessary.

³⁷ Makioka, "The impact of export controls on international trade: Evidence from the Japan–Korea trade dispute in semiconductor industry" ; Aisha and Yusof, "Strategic Governance of AI and Intangible Technology Transfers in ASEAN."

³⁸ Ministry of Investment, Trade and Industry, Strategic Trade (Strategic Items) List 2023; World Customs Organization, *HS Explanatory Notes*.

³⁹ Kim, "Enhancing the Interface between the Harmonized System and Strategic Trade Controls."

The inherent many-to-many cross-relationship

The divergence in classification philosophy gives rise to a structural reality: the relationship between SIL CC/ECCN and TC/HTS is inherently many-to-many.⁴⁰ The following examples illustrate how the many-to-many relationship between SIL CC/ECCN and TC/HTS may operate in practice.

(a) One SIL Category → Multiple TC/HTS Codes

A single SIL category may cover a broad spectrum of strategically sensitive capabilities that can manifest in different physical forms. For example:

- A controlled electronic performance capability may appear as:
 - An integrated circuit,
 - A testing instrument,
 - An embedded module,
 - A larger system component.

Each of these physical manifestations may fall under different AHTN tariff headings despite being subject to the same SIL control criteria. Thus, one SIL category may correspond to several tariff codes depending on the commercial presentation of the item.

(b) One TC/HTS Code → Multiple SIL Outcomes

Conversely, a single TC/HTS tariff code may encompass a wide range of products with vastly different technical capabilities. For instance, a tariff heading for integrated circuits or telecommunications apparatus may include both:

- Low-performance, non-controlled commercial goods, and
- High-performance, strategically controlled items meeting SIL thresholds.

Therefore, the tariff code alone cannot determine whether an item is subject to export control. Strategic sensitivity can only be assessed through technical evaluation under SIL criteria. These examples illustrate why synchronization focuses on ensuring that the classifications can be explained and reconciled, rather than forcing the two systems into a one-to-one correspondence.

This many-to-many relationship can create classification uncertainty when the two systems are assessed independently.

⁴⁰ Ministry of Investment, Trade, and Industry, Circular of the Strategic Trade Controller No. 2/2024 on Tariff Code Registration in the E-Permit STA System.

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Table 1 Scenario A: 1 Malaysia (MY) SIL Category → More Than 1 TC/HTS Code

Malaysia SIL Category	Technical Control Basis (SIL)	Possible TC/HTS Code 1	Possible TC/HTS Code 2	Why Multiple Tariff Codes?
3A – Electronics	Performance thresholds (speed, frequency, precision)	8542.31.00 (Processors)	9030.40.00 (Signal analyzers)	SIL controls function; tariff depends on whether item is a chip or instrument
5A – Information Security Equipment	Encryption functionality	8517.62.00 (Telecom apparatus)	8471.80.00 (Computer units)	Same encryption control may be embedded in different physical products
7A – Avionics & Navigation	Flight navigation capability	8803.30.00 (Aircraft parts)	9014.20.00 (Navigation instruments)	Device may be classified as aircraft part or navigation instrument
1C – Chemicals	Controlled chemical composition	2930.xx.xx (Organic chemicals)	3812.xx.xx (Prepared chemical products)	Substance may be raw chemical or formulated mixture

This example illustrates that a single SIL category can apply across multiple tariff chapters because SIL focuses on technical capability, while TC/HTS focuses on commercial classification.

Table 2 Scenario B: 1 TC/HTS Code → More Than 1 MY SIL Category

Malaysia TC/HTS Code	Tariff Description	Possible SIL Category 1	Possible SIL Category 2	Why Multiple SIL Categories?
8542.31.00	Electronic integrated circuits – Processors	3A (Controlled electronics)	Not controlled under SIL	Performance threshold determines control status
8517.62.00	Communication apparatus	5A (Encryption equipment)	3A (Controlled high-performance electronics)	Device may be encryption-controlled or performance-controlled
9030.40.00	Electrical measuring instruments	3A (High-frequency signal equipment)	Not controlled	Bandwidth/precision determines SIL status
8803.30.00	Aircraft parts	7A (Avionics)	9A (Aerospace systems)	Depending on function and integration into aerospace systems

This example illustrates that a single tariff code does not indicate whether a product is strategic. Control depends entirely on technical specifications under SIL.

These scenarios demonstrate two principal compliance risks: incorrect tariff linkage where a single SIL category may correspond to several tariff codes, and under-declaration where exporters assume that an apparently ordinary tariff classification indicates the absence of export-control obligations.

Taken together, these examples demonstrate that the relationship between SIL CC/ECCN and TC/HTS classifications is inherently many-to-many. The objective of synchronization is therefore not to create a one-to-one correspondence between the systems, but to ensure that the relationship between the classifications is transparent, technically defensible, and capable of regulatory review.

Operational implications for permit applicants

For permit applicants, the mandatory synchronization of SIL CC/ECCN and TC/HTS classifications fundamentally reshapes the operational approach to export control compliance under the STA 2010.⁴¹ Classification can no longer be treated as a sequential or compartmentalized exercise in which export control determination is conducted independently of customs considerations. Instead, applicants must adopt a disciplined and methodical classification process that integrates technical assessment, regulatory interpretation, and operational execution from the outset of the permit application.⁴²

Applicants have historically been required, where applicable, to determine both the relevant Strategic Items List classification and the applicable tariff classification. The principal change introduced by the mandatory synchronization framework is therefore not the creation of two new classification obligations, but the requirement that the classifications be considered together and mutually validated within the permit workflow. The process should begin with a technical assessment of the exact product, including its design, function, performance characteristics, configuration, and other attributes relevant to export-control classification. The appropriate tariff classification should then be determined independently under the applicable customs rules, followed

⁴¹ Ministry of Investment, Trade, and Industry, Circular of the Strategic Trade Controller No. 2/2024 on Tariff Code Registration in the E-Permit STA System

⁴² Ministry of Investment, Trade and Industry, Strategic Trade (Strategic Items) List 2023.

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by a documented review of whether both classifications describe the same product consistently.⁴³

In parallel with export control classification, applicants must derive the appropriate tariff classification in accordance with established customs rules and principles. This requires careful consideration of the item's physical characteristics, form factor, principal function, and how it is presented for export. Tariff classification is not a discretionary exercise and must reflect an accurate and defensible interpretation of the Harmonized System. Under the mandatory synchronization framework, applicants must ensure that the selected tariff code is technically appropriate for the product and does not create unexplained inconsistencies with the export-control classification. A tariff classification that is overly generic or misaligned with the item's actual function may raise regulatory concerns, even if technically permissible under customs rules.

A critical operational requirement is the ability of applicants to explain the relationship between the SIL CC/ECCN and the TC/HTS classifications. The justification should demonstrate that both classifications relate to the same product and are supported by a coherent and defensible rationale. Consistency across documentation is a further operational imperative. The synchronized SIL CC/ECCN and TC/HTS codes declared in the permit application must be consistently reflected in commercial invoices, packing lists, shipping instructions, and customs declarations. Discrepancies between permit data and shipping documents may trigger review by the STS or customs authorities and can result in delays, clarification requests, or enforcement action. By addressing classification issues during the permit process, applicants reduce the likelihood of downstream disruptions and ensure smoother execution of export transactions.

From an operational governance perspective, mandatory synchronization also requires applicants to establish internal validation and review mechanisms.⁴⁴ Classification decisions should not be made in isolation by a single function but should be reviewed through internal controls to confirm accuracy and consistency. This may include documented classification procedures, internal peer reviews, or escalation mechanisms for complex or borderline cases. Such practices not only support regulatory compliance but also improve organizational resilience in the face of evolving control requirements.

⁴³ World Customs Organization, *HS Explanatory Notes*.

⁴⁴ Kareem, "Implementation and Enforcement of Strategic Trade Controls in Malaysia."

Ultimately, while mandatory SIL CC/ECCN–TC/HTS synchronization introduces a higher standard of rigor, it provides tangible operational benefits for permit applicants. By resolving classification alignment issues early and comprehensively, companies gain greater certainty in permit outcomes, reduce the risk of shipment interruptions, and strengthen their compliance posture. This proactive and integrated approach reflects the intent of Malaysia’s STM framework: to facilitate legitimate trade while ensuring effective and credible control over sensitive technologies.

High-technology use cases: AI and semiconductors

The strategic importance of mandatory synchronization between SIL CC/ECCN and TC/HTS classifications is most evident in sectors characterized by rapid innovation, functional convergence, and high strategic sensitivity, particularly artificial intelligence and semiconductor technologies. These sectors produce products whose outward physical characteristics often fail to reflect their underlying technological capabilities, making them especially susceptible to misclassification when export control and customs systems operate independently.

Artificial intelligence–related integrated circuits provide a clear example of this challenge. AI accelerators, graphics processing units, and application-specific integrated circuits designed for machine learning workloads may share physical form factors and basic functional descriptors with general-purpose processors or controllers.⁴⁵ From a tariff perspective, such items may reasonably fall within broadly defined categories for electronic integrated circuits used in data processing or control applications. However, from an export control standpoint, these same items may fall within controlled electronics categories due to their computing architecture, degree of parallel processing, data throughput capability, or suitability for high-performance computing and advanced analytical applications. Without explicit synchronization between the CC/ECCN and TC/HTS, the strategic sensitivity of such AI-related components may not be readily apparent at the customs level, thereby weakening the effectiveness of permit-based controls.

Mandatory synchronization addresses this gap by requiring exporters to consciously and explicitly align the export control determination with the selected tariff classification. In practice, this means that when an AI accelerator is identified as a controlled item under the SIL based on its technical performance and intended application, the corresponding tariff

⁴⁵ Makioka, “The impact of export controls on international trade”; Aisha and Yusof, “Strategic Governance of AI and Intangible Technology Transfers in ASEAN.”

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classification must be selected and justified in a manner that accurately reflects its principal function as a high-end processing component rather than a generic electronic part. This alignment ensures that customs authorities reviewing the shipment are provided with information that may assist in recognizing the shipment's strategic significance.

Semiconductor manufacturing technologies present a similarly complex classification landscape. Equipment used in wafer fabrication, inspection, testing, and packaging often consists of modular systems and specialized sub-assemblies that, when viewed in isolation, may resemble general industrial machinery or mechanical components.⁴⁶ In the absence of synchronized classification, such items are frequently declared under broad tariff headings for machinery parts, obscuring their critical role in enabling advanced semiconductor production. From an export control perspective, however, these components may be controlled due to their precision, integration into sensitive manufacturing processes, or potential contribution to advanced node production capabilities.

When synchronization is applied, the export control classification of semiconductor manufacturing equipment or its key components reinforces the tariff declaration by providing contextual clarity. The tariff code is no longer treated as a purely logistical or revenue-driven identifier, but as part of a coherent regulatory narrative that reflects the item's strategic significance. This enables enforcement authorities to distinguish between benign industrial equipment and components that warrant closer scrutiny due to their role in sensitive technology supply chains.

Another area where synchronization proves critical is in the export of semiconductor test and measurement systems, including high-speed data acquisition modules and advanced signal analysis equipment. Such items may be physically indistinguishable from conventional electronic test instruments for tariff purposes, yet their technical specifications and application in validating advanced semiconductor or AI systems may place them within controlled categories. Synchronization ensures that this distinction is preserved across regulatory domains and prevents strategic items from being inadvertently treated as low-risk commercial goods.

Collectively, these examples demonstrate that the risks addressed by mandatory SIL CC/ECCN–TC/HTS synchronization are not theoretical but inherent in the structure of modern high-technology industries. As products become more multifunctional, software-driven, and modular,

⁴⁶ Makioka, "The impact of export controls on international trade."

reliance on tariff classification alone becomes increasingly insufficient to capture strategic sensitivity. Malaysia's requirement for explicit synchronization compels exporters to assess and articulate the full regulatory profile of their products, thereby strengthening both compliance quality and enforcement effectiveness.

An illustrative example is an artificial intelligence accelerator integrated circuit designed to accelerate machine-learning inference and training workloads through massively parallel computing architectures deployed in data centers and advanced analytics systems. From an export-control perspective, the product may be classified under a controlled electronics category, such as a SIL Category 3A entry relating to advanced computing integrated circuits, because the classification is determined by factors such as architectural capability, parallel-processing design, computing performance, and suitability for high-performance computing or AI-related applications. From a customs-classification perspective, however, the same product may be classified within the HS 8542 tariff-code family covering electronic integrated circuits, including processors, controllers, or logic integrated circuits, based primarily on its physical characteristics and principal commercial function. This example illustrates the distinct purposes of the two classification systems: the tariff classification identifies the product's commercial identity, whereas the export-control classification captures its strategic sensitivity. Mandatory synchronization does not require the classifications to converge; rather, it requires applicants to demonstrate a coherent and technically defensible relationship between them. In doing so, the framework provides an opportunity for the controlled nature of the AI accelerator to be identified, explained, and documented alongside the corresponding tariff declaration.

In doing so, Malaysia's STM framework recognizes that high-technology exports require a higher standard of regulatory coherence. Mandatory synchronization ensures that the strategic intent of export controls is preserved throughout the export transaction, from permit application to customs declaration, and ultimately to physical shipment. This integrated approach is particularly vital in AI and semiconductor supply chains, where small components can have outsized strategic impact and where regulatory credibility is a prerequisite for participation in trusted global ecosystems.

Compliance, governance, and industry readiness

The introduction of mandatory synchronization between SIL CC/ECCN and TC/HTS classifications under the STA 2010 necessitates a corresponding strengthening of internal governance structures within

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exporting companies. This requirement elevates classification from a narrow compliance task to a core governance function that directly affects permit eligibility, customs clearance, and overall regulatory credibility. As a result, companies engaged in the export of controlled or dual-use items must adopt a more structured and accountable approach to strategic trade compliance.

Effective implementation of mandatory synchronization depends on cross-functional collaboration within organizations.⁴⁷ Engineering and technical teams play a critical role in accurately identifying product functionality, performance parameters, and design intent, which form the basis for CC/ECCN classification under the SIL. Trade compliance professionals must then interpret these technical inputs within the applicable regulatory frameworks to determine the correct SIL CC or ECCN. Logistics and supply chain teams, in turn, are responsible for ensuring that the corresponding tariff classifications used in shipping and customs declarations are consistent with the permit information. Legal and corporate governance functions provide oversight by validating that classification decisions are documented, defensible, and aligned with regulatory expectations. This collaborative approach reduces the risk of isolated decision-making and ensures coherence across the full export transaction lifecycle.

Documentation of classification rationale becomes a central pillar of compliance under this integrated framework. Exporters are expected to maintain clear and auditable records explaining how both the CC/ECCN and TC/HTS classifications were determined and how their alignment was assessed. Such documentation supports timely permit review by the STS and serves as critical evidence in the event of post-approval audits, regulatory inquiries, or enforcement reviews. By formalizing classification justifications, companies enhance transparency and reduce reliance on informal or ad-hoc interpretations that may vary across functions or shipments.

From an operational standpoint, mandatory synchronization encourages exporters to address compliance risks proactively rather than reactively. By resolving classification alignment issues at the permit application stage, companies reduce the likelihood of shipment holds, customs queries, or last-minute regulatory interventions that can disrupt supply chains. This preventive model contrasts with traditional compliance approaches that rely heavily on post-export audits or corrective actions, which are often more costly and disruptive.

⁴⁷ Kareem, "Implementation and Enforcement of Strategic Trade Controls in Malaysia."

Importantly, while mandatory synchronization introduces additional rigor and may require additional implementation effort, it has the potential to provide greater clarity by establishing more consistent expectations across regulatory and enforcement agencies. Exporters benefit from greater predictability in permit outcomes, reduced exposure to enforcement actions arising from classification discrepancies, and enhanced reputational standing with customers, partners, and regulators. In high-technology sectors where trust and compliance credibility are critical, this integrated approach supports sustainable business operations and long-term competitiveness.

Ultimately, the synchronization requirement under STA 2010 serves as a catalyst for improved compliance maturity across industry. It encourages companies to embed strategic trade considerations into their governance frameworks, invest in internal capability development, and view compliance not merely as an obligation, but as an enabler of reliable market access and trusted participation in global supply chains involving sensitive technologies.

Role of academia and industry institutions

From both policy and academic perspectives, Malaysia's implementation of mandatory synchronization between SIL CC/ECCN and TC/HTS classifications presents a valuable and timely case study in regulatory integration. Unlike conventional export control regimes that operate export licensing and customs enforcement as largely separate domains, Malaysia's approach demonstrates how these functions can be systematically aligned at the administrative and transaction levels. This provides fertile ground for academic inquiry into regulatory design, governance effectiveness, and the interaction between trade facilitation and national security objectives.⁴⁸

Institutions of higher learning, as for example Multimedia University, are well positioned to play a central role in examining the conceptual foundations and practical implications of this integrated STM framework. Academic research can assess how mandatory synchronization affects compliance behavior, enforcement outcomes, and regulatory certainty, as well as its impact on industry competitiveness and investment attractiveness. By grounding policy implementation in rigorous analysis, academia contributes to evidence-based refinement of the STM

⁴⁸ Olivia Tan Swee Leng and Rossanne Gale Vergara, "Enhancing Awareness of Intangible Technology Transfer in Malaysian Universities: Strategies and Best Practices," *Journal of Information Systems Engineering & Management* 10 (2025), pp 155-161.

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framework and ensures that regulatory evolution is informed by empirical findings rather than assumptions.

Industry bodies such as the Malaysia Strategic Trade Control Community (MYSTCC) complement this academic role by acting as critical intermediaries between regulators and the private sector. As a practitioner-led organization, MYSTCC is uniquely positioned to translate regulatory intent into operational understanding across industries, particularly in sectors involving advanced electronics, semiconductors, and emerging technologies. Through structured engagement, industry bodies can surface practical challenges, identify areas of ambiguity, and provide feedback that supports continuous improvement of the regulatory framework without compromising its integrity.

Beyond research and feedback, both academic institutions and industry associations play an essential capacity-building function.⁴⁹ Through the development of training programs, professional certifications, and applied learning modules, these institutions help cultivate a pool of skilled professionals capable of performing accurate CC/ECCN and TC/HTS classifications, preparing defensible permit applications, and maintaining robust internal compliance systems. This human capital dimension is especially critical given the increasing technical complexity of controlled items and the convergence of trade, technology, and security considerations.

At the regional and international levels, collaboration between academia and industry bodies also enables Malaysia to project thought leadership in STM. By sharing research findings, best practices, and implementation experiences through conferences, workshops, and joint initiatives, Malaysia can contribute constructively to regional STM capacity-building efforts. This not only enhances Malaysia's standing as a responsible and capable trading nation but also strengthens collective resilience against proliferation and diversion risks across interconnected supply chains.

In this context, the engagement of academia and industry institutions is not ancillary but integral to the sustainability and credibility of Malaysia's STM framework. Their combined roles in research, education, industry engagement, and regional outreach ensure that the mandatory CC/ECCN–TC/HTS synchronization requirement under the STA 2010 remains adaptive, well-understood, and aligned with both national interests and evolving global trade dynamics.

⁴⁹ Tan, "Singapore's Journey Towards its Implementation of Strategic Trade Controls," pp 90-104.

Strategic significance for Malaysia

The mandatory synchronization of SIL CC/ECCN with TC/HTS under the STA 2010 represents a critical enhancement of Malaysia's strategic trade governance architecture. By requiring exporters to establish and justify the relationship between export control determinations and customs classifications at the permit application stage, Malaysia demonstrates a high level of regulatory discipline and institutional maturity in managing sensitive and dual-use technologies. This approach reinforces Malaysia's credibility as a responsible trading nation capable of balancing openness to trade with robust security safeguards.

The integration of export control and customs classification mechanisms enhances trust among international partners by reducing classification ambiguity and strengthening transparency across regulatory touchpoints. Trading partners and multinational corporations are increasingly sensitive to jurisdictional risks related to diversion, misclassification, and enforcement inconsistency, particularly in sectors involving advanced electronics, semiconductors, artificial intelligence, and high-performance computing.⁵⁰ Malaysia's mandatory synchronization framework provides assurance that controlled items are subject to consistent, traceable, and enforceable oversight from permit issuance through physical export, thereby potentially increasing confidence in Malaysia's role within global supply chains for strategically sensitive technologies.

From an economic perspective, this regulatory alignment supports Malaysia's participation in high-value and technology-intensive global supply chains. As international companies seek manufacturing and export hubs that can reliably manage export controls without disrupting legitimate trade, Malaysia's integrated STM framework offers predictability and regulatory clarity. Rather than acting as a trade barrier, the synchronization requirement reduces the risk of shipment delays, post-export enforcement actions, and reputational exposure by ensuring that compliance obligations are addressed proactively and systematically.

At the national policy level, mandatory SIL CC/ECCN–TC/HTS synchronization aligns Malaysia's economic development objectives with its security responsibilities. It supports investment-driven growth under national industrial and technological strategies while ensuring that such growth does not inadvertently create proliferation, diversion, or sanctions-related risks. By embedding preventive controls into administrative

⁵⁰ Makioka, "The impact of export controls on international trade: Evidence from the Japan–Korea trade dispute in semiconductor industry."

processes, Malaysia avoids reliance on reactive enforcement measures and positions itself as a forward-looking jurisdiction that anticipates evolving geopolitical, technological, and regulatory challenges.

Ultimately, Malaysia's approach establishes a scalable and future-ready model of STM. It lays the foundation for deeper regulatory digitalization, enhanced inter-agency coordination, and potential regional or international cooperation on export control best practices. In doing so, Malaysia not only safeguards its national interests but also contributes constructively to the integrity and resilience of the global trading system for advanced and sensitive technologies.

Early implementation effects and future evaluation

Because the mandatory SIL CC/ECCN–TC/HTS synchronization requirement is a relatively recent regulatory development, the assessment of implementation outcomes should distinguish between observed implementation effects, policy objectives, and outcomes that can be demonstrated through reliable empirical data. The framework has created an additional classification-validation checkpoint within the permit process and may encourage closer coordination among technical, trade-compliance, customs, and logistics functions. However, publicly available evidence is insufficient to establish, without further data, the precise magnitude of changes in classification accuracy, permit-processing efficiency, enforcement effectiveness, or trade outcomes.

Potential implementation effects include more structured consideration of classification information, improved documentation of classification rationale, and greater attention to the relationship between strategic and customs classifications. These effects are consistent with the intended design of the framework. They should nevertheless be distinguished from empirically demonstrated outcomes, such as statistically verified reductions in classification discrepancies, measurable improvements in processing times, or demonstrable changes in enforcement results.

From an enforcement and risk-management perspective, synchronization may improve the traceability and usability of information generated during the licensing process. It can provide a stronger data foundation for subsequent risk assessment, post-export review, and investigation where relevant information is available. It does not, however, address exporters who are unaware of applicable controls or deliberately bypass the licensing process, and it should therefore be regarded as complementary to broader enforcement mechanisms.

The synchronization framework is most directly applicable to transactions involving physical goods that can be associated with tariff classifications. Transactions involving software, technical data, technology transfers, or other intangible exports may present different implementation considerations because no corresponding tariff classification may exist. As a result, the operational relevance of synchronization may vary depending on the nature of the transaction and the regulatory mechanisms applicable to the export.

The industry impact is likely to vary according to the size, sector, and compliance maturity of each exporter. Organizations with established export-control and customs processes may primarily need to integrate or validate existing information, while smaller or less mature organizations may require additional guidance, training, and internal governance. The long-term balance between implementation costs and efficiency benefits should be evaluated through further evidence.

Taken together, these considerations indicate that mandatory synchronization is operationally significant and may strengthen classification governance and regulatory visibility. Whether it has produced measurable improvements in enforcement or trade facilitation requires continued monitoring and empirical evaluation.

Limitations of the analysis

This policy analysis has several limitations. First, the mandatory synchronization framework is a relatively recent regulatory development, limiting the availability of long-term data with which to assess its effects. Second, publicly available quantitative information concerning classification discrepancies, permit-processing outcomes, enforcement referrals, and industry compliance costs is limited. The analysis therefore distinguishes between policy objectives, operational mechanisms, implementation observations, and outcomes that require empirical confirmation.

Third, as discussed earlier, synchronization does not imply a one-to-one relationship between SIL CC/ECCN and TC/HTS classifications. The systems serve different regulatory purposes, and legitimate differences may arise. Fourth, synchronization operates primarily within the permit process and therefore cannot independently identify all controlled transactions, particularly transactions involving exporters who are unaware of applicable controls or deliberately bypass licensing requirements.

Finally, this commentary does not claim to establish a causal relationship between synchronization and improved enforcement outcomes. Demonstrating such an effect would require longitudinal data and appropriate empirical methods. These limitations identify areas for future research rather than undermining the potential significance of the policy.

Conclusion

Malaysia's mandatory synchronization of SIL CC/ECCN and TC/HTS information under the STA 2010 e-Permit framework represents a significant development in the administration of strategic trade controls. The policy does not require the two classification systems to become identical. Rather, it requires applicants, where a strategic-trade permit application is required, to consider the classifications together and to ensure that the relationship between them is technically consistent, explainable, and capable of regulatory validation.

The principal contribution of the framework is therefore preventive and informational. By creating an additional cross-validation point within the licensing process, it may improve classification traceability, strengthen internal compliance governance, and provide authorities with more structured information for risk assessment and subsequent compliance activities. The approach is particularly relevant where tariff classifications are broad and do not capture technical characteristics that determine export-control status.

At the same time, the framework has important limitations. Exporters have historically been required to determine applicable export-control and customs classifications where relevant; the principal change is the requirement to manage and validate these classifications together within the permit process. The synchronization requirement cannot establish a one-to-one relationship between the systems, cannot eliminate legitimate classification differences, and cannot fully address enforcement risks arising outside the licensing process.

The long-term effectiveness of the policy should therefore be evaluated through empirical evidence concerning classification discrepancies, permit processing, compliance costs, post-export verification, enforcement referrals, and other relevant indicators. On the evidence currently available, mandatory synchronization is best understood as a complementary regulatory mechanism that strengthens the connection between strategic-trade and customs information while preserving the distinct legal and technical purposes of each classification system.

In conclusion, the integration of SIL CC/ECCN and TC/HTS within Malaysia's STA 2010 framework exemplifies a holistic and strategic approach to export control, one that harmonizes national security imperatives with industry facilitation. It demonstrates that with clear policy direction, robust regulatory architecture, and proactive industry engagement, countries can successfully manage sensitive trade while maintaining economic competitiveness, supply chain integrity, and global trust in their trade compliance systems. Malaysia's experience provides a compelling blueprint for how emerging economies can strengthen strategic trade governance in an era of technological acceleration and interconnected global commerce.