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From Tariffs to Trust: Regulatory Compatibility and Quality Infrastructure in ASEAN–India Trade in Goods

Anil Jauhri and Om Stutee

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From Tariffs to Trust: Regulatory Compatibility and Quality Infrastructure in ASEAN–India Trade in Goods

Anil Jauhri* and Om Stutee**

Abstract: As tariffs decline, standards, technical regulations, sanitary and phytosanitary measures, conformity assessment, and private standards increasingly determine market access in ASEAN-India goods trade. This paper examines the quality infrastructure ecosystems of India and ASEAN, highlighting their institutional differences: India's nationally anchored, statute-led system centred on the Bureau of Indian Standards, and ASEAN's regionally coordinated model built on national systems, the ACCSQ, and sectoral mutual recognition arrangements. Mapping standards-sensitive export clusters, including food and agriculture, pharmaceuticals, electronics, automotive, and jewellery, itidentifies procedural frictions arising from duplicated testing, inspection, and certification where compliance evidence is not mutually accepted. It argues that cooperation should move from dialogue to implementation through modular, sector-by-sector arrangements under the AITIGA review architecture, including inspection reliance, digital certification exchange, and scoped recognition. These should be matched to each side's functional strengths, as reflected in the Global Quality Infrastructure Index. Strengthening MSME readiness, data sharing, and building regulator-to-regulator confidence ares essential for a resilient, trusted ASEAN-India economic partnership.

1. Introduction

The next phase of ASEAN-India economic engagement in goods will be shaped not only by tariffs but also by the product quality and compatibility of regulatory systems. As tariffs have progressively declined through multilateral, regional, and bilateral trade agreements; standards, technical regulations, sanitary and phytosanitary (SPS) measures, conformity assessment procedures (CAP), and private standards have assumed growing significance in determining the actual conditions of market

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access. Trade competitiveness is therefore shaped not only by price and production efficiency, but also by the ability of businesses and national systems to demonstrate compliance with increasingly complex regulatory and buyers' requirements.

The growing centrality of standards and regulatory systems reflects broader structural changes in the global economy. Production processes are increasingly fragmented across global value chains (GVCs). At the same time, consumer expectations regarding safety and sustainability have intensified and governments have expanded regulatory oversight from areas such as product safety, health, and environment to climate action and sustainability. Private market actors have emerged as important influencers through voluntary certification and supply-chain requirements. Consequently, standards and quality infrastructure systems now function not merely as technical tools, but as integral components of trade governance, industrial competitiveness, consumer protection, and strategic economic policy. The expansion of ASEAN-India trade under the ASEAN-India Trade in Goods Agreement (AITIGA) has simultaneously increased the relevance of non-tariff measures (NTMs), regulatory compatibility, and institutional trust between the two sides. Understanding the structure and functioning of these systems, therefore, becomes essential for assessing both existing trade frictions and future possibilities for regulatory cooperation.

2. Standards, Accreditation, and Regulatory Cooperation

2.1. Standards and technical regulations form the first layer of this system

A standard is generally a voluntary technical specification developed by a recognised body. It may define product characteristics, test methods, terminology, packaging, labelling, performance, or management-system requirements. A technical regulation, by contrast, is mandatory. The distinction is recognised in the World Trade Organization (WTO) Agreement on Technical Barriers to Trade (TBT Agreement), which

covers technical regulations, standards, and CAPs while seeking to ensure that such measures do not create unnecessary obstacles to international trade (WTO, 1995a). In practice, the boundary is frequently bridged when governments reference standards into regulation. This conversion of voluntary specifications into mandatory requirements is a common regulatory technique, including in India through Quality Control Orders (QCOs) that notify specified standards as compulsory for particular product categories.

2.2. SPS measures form a separate but related category of regulation

The WTO Agreement on the Application of Sanitary and Phytosanitary Measures (SPS Agreement) applies to measures intended to protect human, animal, or plant life or health from risks arising from pests, diseases, contaminants, toxins, additives, or disease-causing organisms in food, beverages, or feedstuffs (WTO, 1995b). The SPS Agreement is not an umbrella for all consumer or animal-welfare objectives; measures not falling within SPS definitions may be disciplined under the TBT Agreement or other WTO provisions. For ASEAN-India policy design, this distinction is operational: agri-food, fisheries, horticulture, and live-animal trade sit predominantly within SPS systems, while electrical goods, machinery, cosmetics, labelling, and most industrial goods sit primarily within the TBT domain.

2.3. National Quality Infrastructure

Standards and regulations do not function in trade unless there is an institutional chain that can (i) generate credible evidence of compliance and (ii) support acceptance of that evidence by regulators and markets. This chain is commonly framed as National Quality Infrastructure (NQI). It refers to the institutional framework that supports the development, implementation, verification, and recognition of standards and regulatory requirements. It includes standards bodies, metrology institutions, conformity assessment bodies such as testing and calibration laboratories, inspection bodies, and certification bodies, and accreditation bodies.

2.4. Basic Design and Architecture

The basic architecture of NQI to support regulations and market surveillance may be understood from the Table 1.

Table 1: Basic Architecture of NQI

Function	Institutional role
Standards	Define technical requirements, specifications, and methods
Metrology	Ensures measurement traceability, accuracy, and reliability
Conformity assessment	Testing, inspection, certification, validation, and verification
Accreditation	Confirms the competence of laboratories, certification bodies, and inspection bodies

Source: Authors' own

This architecture also clarifies a key policy point: Trade costs do not disappear when tariffs decline; they can shift into verification and compliance friction when institutions are weak, fragmented, or not mutually recognised.

2.5. Conformity assessment is the operational bridge between technical requirements and market access

It covers testing, inspection, and certification as well as validation and verification activities. Accreditation occupies a crucial middle layer because it is not product approval; it is a formal attestation that a laboratory, inspection body, certification body, or other conformity assessment body is technically competent to perform specified tasks. Accreditation, therefore, provides a governance mechanism through which regulators and markets can place structured confidence in compliance evidence.

Regional arrangements within ASEAN explicitly link accreditation and mutual recognition to trade facilitation by reducing duplication of testing, inspection, and certification where regulatory confidence exists (ASEAN Secretariat, 2026). The TBT framework also recognises accreditation as a relevant indicator of technical competence when considering acceptance of conformity assessment results (WTO, 1995a). However, technical competence is necessary but not always sufficient for regulatory acceptance. Many regimes continue to require designated procedures, domestic registration, local authorisation, or regulator-to-regulator confidence mechanisms, even where test reports or certificates are technically credible.

2.6. Market surveillance forms the post-market enforcement component of the quality ecosystem

It involves monitoring products already placed in the market to ensure continued compliance with applicable technical regulations, safety requirements, labelling obligations, and certification conditions. Effective market surveillance is essential for maintaining consumer protection and regulatory credibility. It is also important for regional cooperation because weak post-market enforcement in one jurisdiction can undermine trust in compliance systems across wider supply chains.

2.7. The international quality architecture provides the wider reference framework within which national and regional systems operate

In industrial goods, the International Organization for Standardisation (ISO) and the International Electrotechnical Commission (IEC) sit at the core of international standardisation, while international disciplines shape how technical regulations and CAPs should be designed and applied (WTO, 1995a). In SPS domains, Codex Alimentarius, the World Organisation for Animal Health (WOAH/OIE), and the International Plant Protection Convention (IPPC) serve as central international reference points, consistent with the SPS Agreement's reference-body structure (WTO, 1995b). In accreditation and conformity assessment

recognition, Global Accreditation Cooperation Incorporated (GACI) provides the international recognition architecture for accredited conformity assessment. It supports confidence in the competence of laboratories, inspection bodies, certification bodies, and validation/ verification bodies.

2.8. Mutual Recognition Agreements (MRAs)

MRAs are intended to reduce compliance duplication by enabling acceptance of specified conformity-assessment outputs - such as test reports, inspection outcomes, and certificates, generated in another jurisdiction, within agreed scope and conditions. MRAs do not require harmonised standards or regulations; they operationalise trust through - scope definition, designation/listing of eligible conformity-assessment bodies, surveillance and handling of non-compliance, and regulator confidence. In ASEAN, sectoral MRAs demonstrate how recognition is operationalised through defined technical bases, listed bodies, and institutional procedures, which are discussed in later sections.

2.9. Private standards add another layer to this compliance landscape

WTO SPS and TBT disciplines apply primarily to governmental measures and regulations. However, market access increasingly depends on private and value-chain requirements that operate as de facto entry conditions even when not imposed by the state. Retailer and buyer driven schemes in agri-food, seafood, textiles, palm oil, timber products, organic products, and sustainability-linked sectors impose audit, testing, certification, traceability, and documentation requirements alongside public regulation.

Examples include GlobalG.A.P. in agricultural value chains, Brand Reputation Compliance Global Standards (BRCGS) in food safety and retail supply chains, and the Roundtable on Sustainable Palm Oil (RSPO) in palm oil sustainability certification. These private requirements may also become trade-relevant when referenced in procurement policies, import protocols, sustainability due diligence frameworks, or buyer

contracts. This compliance economy is particularly consequential for small and medium enterprises (SMEs) because it involves recurring audit, certification, documentation, and traceability costs (Kher, Jauhri, & Stutee, 2026).

This framework provides the basis for subsequent sections. The next section maps the quality ecosystems of India and ASEAN, including regional architecture and member-state systems. Later sections examine sectoral interfaces in trade, the principal sources of friction, and the institutional conditions under which ASEAN-India cooperation can support more predictable, credible, and business-enabling compliance pathways.

3. Quality Ecosystems in India and ASEAN: Institutional Architecture and Regional Interfaces

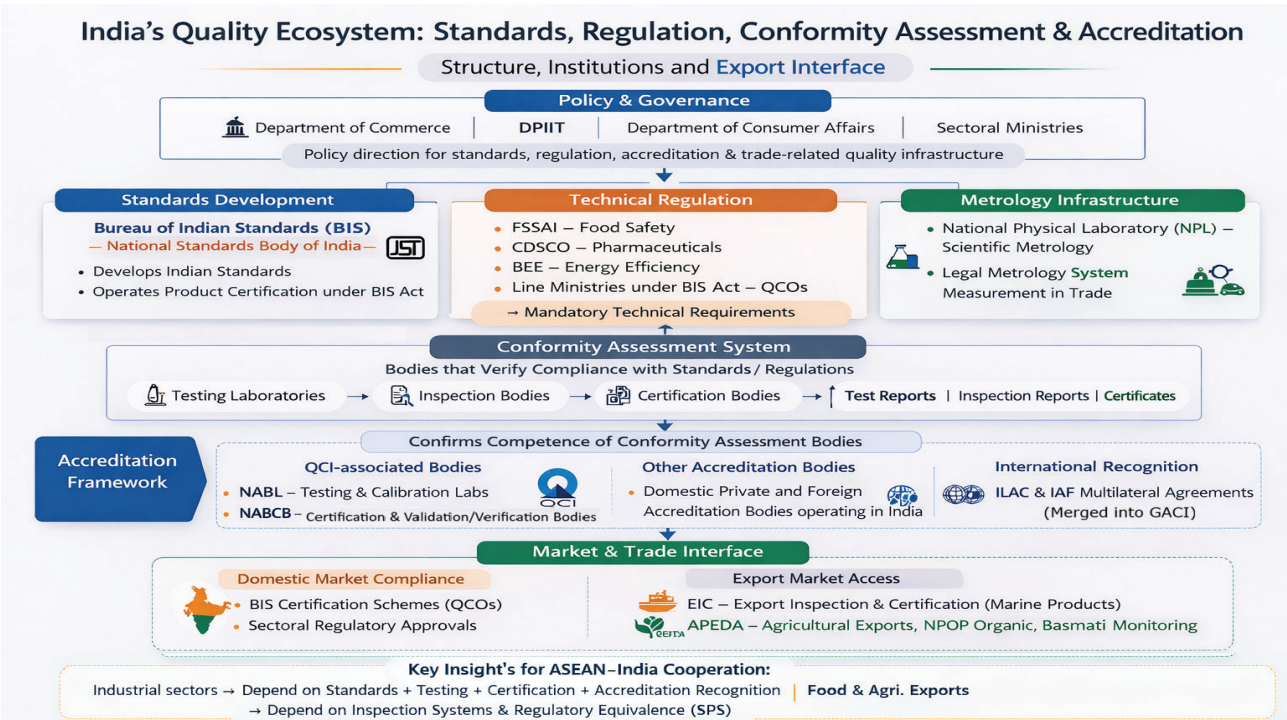
India and ASEAN operate distinct quality ecosystems that are functionally comparable but institutionally organised in different ways. India's quality ecosystem is nationally anchored and statute-led, while ASEAN's ecosystem is regionally coordinated across national systems. India operates through domestic institutions such as the Bureau of Indian Standards (BIS), sector regulators, accreditation bodies, export certification agencies, and promotion bodies. ASEAN operates through national standards and regulatory systems of member states, coordinated regionally through the ASEAN Consultative Committee on Standards and Quality (ACCSQ), sectoral bodies, and MRAs.

3.1 India's Quality Ecosystem

India's NQI comprises a standards framework covering regulatory and voluntary sectors, sectoral regulators, conformity assessment bodies, accreditation mechanisms, metrology institutions, consulting and training institutions, and export-facing agencies (Figure 1).

BIS is the central standards institution in India. It functions as the National Standards Body (NSB). Indian Standards are generally

Figure 1. India's Quality Ecosystem



Source: Authors' own

voluntary, but become mandatory when adopted into regulation, including through QCOs issued by line ministries under the BIS Act framework. The BIS Act empowers the Central Government, after consultation with BIS, to notify compulsory application of standards for specified goods, processes, or services, and BIS implements the associated certification/ licensing arrangements under the Act and subordinate regulations (BIS Act, 2016). BIS' mandate includes - development and publication of Indian Standards, implementation of conformity-assessment schemes, laboratory recognition and operation for conformity assessment, hallmarking, and representation of India in ISO and IEC. This dual role of BIS - standards development and certification - is a distinctive feature of the Indian system and influences how Indian compliance evidence interfaces with external systems that are organised around accreditation-based third-party conformity assessment (Kher and Jauhri, 2025).

Technical regulation in India is distributed across sectoral authorities. The Food Safety and Standards Authority of India (FSSAI) regulates food standards, contaminants, additives, labelling and food imports; Central Drugs Standard Control Organisation (CDSCO) regulates pharmaceuticals, cosmetics and medical devices, including approvals, registration and Good Manufacturing Practices (GMP) related oversight; Bureau of Energy Efficiency (BEE) administers energy performance standards and labelling; Telecommunication Engineering Centre (TEC) deals with telecom equipment requirements; and automotive approvals operate through the Central Motor Vehicles Rules/Automotive Industry Standards (CMVR/AIS) framework and designated test agencies. Legal metrology and scientific metrology provide the measurement base through the legal metrology system and the National Physical Laboratory (NPL), respectively. Conformity assessment in India is carried out by laboratories, inspection bodies, certification bodies, and validation/ verification bodies in both public and private sectors. Where there are no designated sector regulators, the BIS Act provides the instrument being sector neutral and a range of products from toys to textiles to chemicals

to electrical appliances to electronics & IT goods to construction products are regulated under it.

The Quality Council of India (QCI) supports India's voluntary quality ecosystem through accreditation and quality-promotion activities. Accreditation for testing laboratories is provided principally through the National Accreditation Board for Testing and Calibration Laboratories (NABL), while the National Accreditation Board for Certification Bodies (NABCB) handles accreditation for certification, inspection, and validation/verification bodies, both having multilateral recognition arrangements with Global Accreditation Cooperation Incorporated (GACI). Alongside these national accreditation boards, India's accreditation landscape also includes private accreditation bodies operating with international recognition from GACI in laboratory accreditation, including Quality & Accreditation Institute (QAI), Federation for Development of Accreditation Services (FDAS), and International Quality and Accreditation Services Pvt. Ltd. (IQAS).

India's export-facing quality infrastructure operates through specialised agencies and sectoral bodies. The Export Inspection Council (EIC) provides export inspection and certification, especially in food and marine products. Agricultural and Processed Food Products Export Development Authority (APEDA) administers export systems for agricultural and processed food products, including the National Programme for Organic Production (NPOP) for organic certification. Commodity boards and Export Promotion Councils (EPCs), including sector bodies such as the Spices Board, Coffee Board, Tea Board, Marine Products Export Development Authority (MPEDA), and others, support export promotion, documentation, certification awareness, and destination-market intelligence. These bodies play an important role in regulatory developments in destination markets that are increasingly sector specific. EPCs, commodity boards, and the Federation of Indian Export Organisations (FIEO) are well placed to monitor technical regulations and standards in export markets, maintain sectoral databases,

and disseminate compliance information to industry. This distribution reflects sectoral specialisation but also means that trade-facing quality issues are spread across multiple authorities rather than handled through a single quality-governance mechanism.

3.2 ASEAN's quality ecosystem

ASEAN's quality ecosystem operates through regional coordination among sovereign national systems rather than through a single ASEAN-wide standards regulator. Member States retain legal responsibility for national standards, technical regulations, accreditation, conformity assessment, import approvals, and market surveillance. Regional cooperation is organised principally through the ACCSQ, which coordinates ASEAN work on standards, technical regulations and conformity assessment, accreditation cooperation and sectoral recognition mechanisms.

ASEAN's accreditation guidelines provide a useful lens for comparative analysis because they explicitly acknowledge uneven national capacity while preserving the integrity of competence assurance. The guidelines recognise three national institutional options: a Member State may designate a single National Accreditation Body (NAB), establish a National Accreditation Coordinating Body where more than one accreditation body operates, or appoint a National Accreditation Focal Point where no accreditation body exists. Where a Member State lacks a National Accreditation Body or where national accreditation scope is limited, conformity assessment bodies may rely on accreditation from recognised regional or international accreditation bodies, particularly those operating under the Asia Pacific Accreditation Cooperation (APAC) MRA and linked global recognition systems, with preference for ASEAN-based bodies where feasible. This design lowers the "infrastructure threshold" for participation in regulated trade without requiring every economy to establish full-spectrum accreditation capacity, while simultaneously signalling differentiated maturity across ASEAN national quality systems.

This differentiation is visible at the national level, as ASEAN member states maintain distinct standards and conformity assessment systems.

- Singapore's system operates through Enterprise Singapore and the Singapore Accreditation Council (SAC), with Singapore Standards and SAC accreditation relevant to electronics, food, telecom, and precision manufacturing.
- Malaysia operates through the Department of Standards Malaysia, which functions as both the NSB and NAB, with Malaysian Standards (MS), halal systems, medical device regulation, palm oil-related standards, and industrial product requirements forming important trade-facing areas.
- Thailand's quality system is centred on the Thai Industrial Standards Institute (TISI), with Thai Industrial Standards (TIS) relevant to automotive, electronics, machinery, and consumer goods.
- Indonesia has a separate standards and accreditation architecture through Badan Standardisasi Nasional (BSN) for Indonesian National Standards (SNI) and Komite Akreditasi Nasional (KAN) for accreditation, with SNI - halal certification, food, chemicals, and consumer goods forming major regulatory interfaces.
- Vietnam's standards, metrology, and quality system operate through the Directorate for Standards, Metrology and Quality (STAMEQ), including oversight of Vietnamese standards (TCVN) - relevant to electronics, machinery, textiles, food, and export-oriented. Accreditation is administered through the Bureau of Accreditation (BoA) within the same administrative umbrella, which creates a relatively integrated governance structure for standards, metrology, and accreditation functions although they do have more accreditation bodies.
- The Philippines operates through the Bureau of Philippine Standards (BPS) and the Philippine Accreditation Bureau (PAB), with Philippine National Standards (PNS).
- The development gap remains a structural issue. ASEAN's ongoing

"Strengthening the Quality Infrastructure in ASEAN" project explicitly targets Cambodia, Lao PDR, Myanmar, and Vietnam.

- Brunei Darussalam maintains standards and conformity systems with relevance to halal and food-related regulation.
- Cambodia's Institute of Standards of Cambodia, Lao PDR's Department of Standardization and Metrology, and Myanmar's national standards and metrology institutions continue to develop standards, conformity assessment, and SPS capacity.

Timor-Leste became ASEAN's eleventh member in 2025, adding a further capacity-building dimension to ASEAN's regional quality architecture.

3.3 Regional comparison: ASEAN and SAARC

India's regional experience in South Asia provides a useful contrast. Within the South Asian Association for Regional Cooperation (SAARC), regional cooperation on standards has proceeded through the South Asian Regional Standards Organization (SARSO), which was created to support harmonisation and cooperation in standards and conformity assessment. However, SAARC has not developed a comparable operational architecture of sectoral MRAs, listed conformity assessment bodies, and regulator-led regional committees. At the national level, many South Asian countries, including India (BIS), follow a standards-body-centred regulatory model in which the national standards body has historically combined standards development with certification or conformity assessment functions both voluntary and under regulations, while accreditation is institutionally separate. ASEAN member states, by contrast, tend to follow a more separated quality-infrastructure model in which standards, accreditation, regulation, and conformity assessment are institutionally differentiated, though some combined models exist, such as Malaysia, where the Department of Standards Malaysia functions as both the NSB and NAB. This institutional differentiation, combined with production networks in electronics, automotive, food, and manufacturing sectors, partly explains why ASEAN has been able to build more

sector-specific recognition mechanisms, while SAARC cooperation has remained more standards-centred.

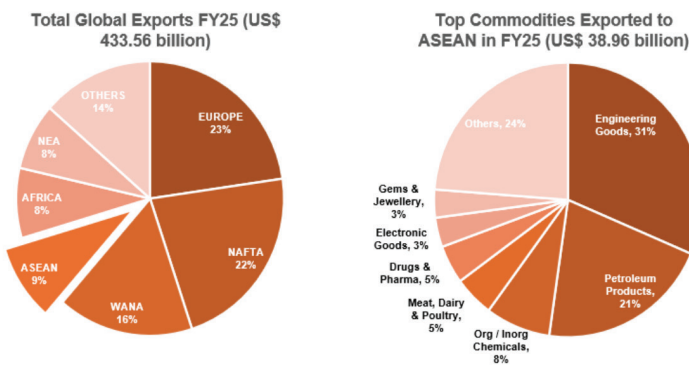
4. Trade Structure and Standards-Sensitive Sectors

4.1. Trade Profile

India-ASEAN trade has moved into a phase where binding constraints are increasingly "behind the border" - how regulatory requirements are specified, compliance evidence is generated, and whether that evidence is accepted without repeated testing, inspection, or re-certification. This section, therefore, links the trade basket to the market-access mechanics that shape realised trade outcomes in standards-sensitive sectors.

In FY2025-26, ASEAN accounted for about 9 per cent of India's global exports, and exports to ASEAN were about US$ 38.96 billion. India's export basket is led by engineering goods and petroleum products, with a material presence of standards-sensitive sectors such as chemicals and pharmaceuticals, and smaller but compliance-intensive lines in food products, electronics, and gems and jewellery (Figure 2). ASEAN's

Figure 2: Total Global Exports and Top Commodities Exports to ASEAN in 2025



Source: NIRYAT, Govt. of India

exports to India are concentrated in electronics and electrical machinery (including telecom equipment), chemicals and plastics, palm oil and processed foods, automotive components, machinery, and consumer products.

The trade basket also indicates that not all high-value exports are equally relevant for standards cooperation. Petroleum products and bulk commodities account for a large share of trade value, but standards cooperation becomes most consequential in sectors where market access depends on compliance systems, technical documentation, inspection procedures, and conformity assessment outcomes. For India-ASEAN trade interests, the standards-sensitive core can be grouped into a small set of clusters, which may be grouped as highlighted in Table 2.

Table 2: Key Standards-Sensitive Export Sectors in India-ASEAN Trade

Product cluster	Representative HS-4 Export Products (India to ASEAN)
Food and agriculture	Rice (1006), pepper (0904), groundnuts (1202), frozen bovine meat (0202),
Pharmaceuticals and medical products	Medicaments (3004), APIs, medical devices
Chemicals	Heterocyclic compounds (2933), cyclic hydrocarbons (2902), insecticides (3808), coal-tar products (2707)
Automotive and machinery products	Diesel engines (8408), turbojets (8411), motor vehicle parts (8708),
Engineering materials	Aluminium (7601), zinc (7901), industrial materials
Jewellery	Diamonds (7102), jewellery articles (7113), precious metals,
Marine and transport equipment	Ships, floating structures, and transport equipment (8901)

Source: Authors' own

The compliance pathway differs across these clusters in predictable ways. Electronics and automotive products depend more heavily on technical standards, interoperability requirements, and testing/ certification or type-approval systems, while food and agricultural products depend more on SPS controls, inspection systems, residue/ contaminant limits, and traceability documentation, and pharmaceuticals depend on manufacturing oversight, GMP compliance, and product registration systems (Rath et al., 2025).

Jewellery and precious-metal products merit separate mention within the standards-sensitive trade basket because their market-access issue is different from most industrial goods. The concern is not only technical competence in testing or certification, but whether the importing jurisdiction legally accepts foreign assay and hallmarking systems. India's BIS hallmarking system provides domestic assurance of purity through assaying and hallmarking centres, but this assurance is not automatically recognised abroad since assaying centres are not accredited. Exporters may therefore face additional conformity assessment requirements in the importing market, including fresh assay, verification, documentation, or certification, unless India negotiates acceptance of assaying reports from assaying centres accredited as per ISO/IEC 17025.

This sectoral variation supports a sequenced approach, focusing first on areas where recognition of compliance evidence - test reports, inspection outcomes, certificates, and dossiers - can most credibly reduce duplication and improve market-access predictability.

4.2. Market Access Frictions

The main trade frictions in these sectors are procedural rather than tariff based. At the first stage, exporters may face difficulties in using tariff preferences because of rules of origin (RoO), documentation requirements, and the cost of obtaining certificates of origin. At the second stage, they face regulatory compliance costs linked to authorisations, registrations, product testing, inspections, certification, labelling, packaging, residue limits, traceability, and documentary proofs. These frictions become

more costly when evidence generated in the exporting country is not accepted by the importing authority. Exporters may then face re-testing, additional inspection, duplicate certification, or repeated submission of technical documentation (De et al., 2019). In meat products, ASEAN-side requirements include technical requirements for TBT reasons, labelling and certification requirements, and, in some markets, a halal compliance interface that adds facility, segregation, and documentation conditions. This is where sectoral recognition mechanisms become relevant.

4.3. ASEAN's Sectoral Recognition Experience

ASEAN has developed six core product-sector MRAs relevant to standards and conformance, plus the ASEAN Harmonized Cosmetic Regulatory Scheme, which contains an embedded MRA (Schedule A). These arrangements provide practical examples of how recognition can be organised without creating a single regional regulator. They differ by sector, but they generally seek to reduce duplication while preserving the regulatory authority of Member States.

Across sectors, ASEAN MRAs follow a consistent trust architecture.

- At the technical level, ASEAN draws on internationally accepted bases rather than creating a single ASEAN rulebook - for example, IEC and ISO standards for EEE; United Nations Economic Commission for Europe (UNECE) UN Regulations for automotive type approval, and WTO TBT/SPS-consistent, Codex-linked regulatory reasoning in food-related systems.

- At the competence level, conformity assessment is anchored in the ISO/IEC framework (ISO/IEC 17000 family), including ISO/IEC 17025 for testing laboratories, ISO/IEC 17020 for inspection bodies, and, where relevant, ISO/IEC 17021 for certification of management systems and ISO/IEC 17065 for product/process certifications.

- At the recognition level, acceptance depends on accreditation-based confidence linked to international and regional arrangements such as GACI and APAC framework.

Table 3. List of ASEAN Sectoral MRAs

MRA	Sector	Year	Regulation
EEE MRA	Electrical & electronic equipment	2002	Core goods MRA
GMP Inspection MRA	Pharmaceuticals	2009	Regulatory reliance
Bioequivalence MRA	Generic medicines	2017	Acceptance of BE reports
Prepared Foodstuff MRA	Food hygiene systems	2018	System recognition
Automotive Type Approval MRA	Automotive products	2021	UN Regulations-based
Building & Construction Materials MRA	Construction materials	2024	Signed; implementation matters
Cosmetics Schedule A	Cosmetics	2003	Related embedded MRA

Source: Authors' own

ASEAN also maintains MRAs in services - engineering, nursing, architecture/surveying, medical and dental practitioners, accountancy, tourism, with the explicit safeguard that MRAs do not override host-country laws and apply in accordance with prevailing domestic regulations. These services are relevant as an institutional model for committee-based recognition and defined procedures under domestic safeguards (ASEAN Secretariat).

4.4. Priority Sectors for Cooperation

Sectoral prioritisation is necessary as standards cooperation cannot be attempted across all products at once, and because conformity assessment recognition requires a defined scope and competence/oversight conditions. The table below links priority sectors to the dominant market-

Table 4: ASEAN-India Cooperation in Standard

Sector	Key traded products	ASEAN instrument	Indian system	Recognition interface
Food & agriculture	Rice; meat; groundnuts; pepper	MRA on Inspection & Certification Systems for Prepared Foodstuff	FSSAI food control; EIC export inspection/certification; APEDA export certification systems	System recognition/ inspection & certification outputs
Pharma-ceuticals	Medicaments	MRA on GMP Inspection of Manufacturers	CDSCO oversight; GMP inspections	Regulatory reliance/ inspection outcomes
EEE	Electronics and IT equipment	Sectoral MRA for Electrical & Electronic Equipment	BIS compulsory registration/ certification routes; accredited testing laboratories	Test report and certification recognition (defined scope)
Automotive & machinery	Engines; auto parts	MRA on Type Approval for Automotive Products	CMVR/AIS type approval system	Type approval evidence recognition (UN-Regulations aligned where applicable)
Construction materials	Construction materials	MRA for Building and Construction Materials	BIS product standards and conformity assessment	Product-specific recognition within the MRA scope

Source: Authors' own

access friction and to the relevant ASEAN instrument/experience base that can inform ASEAN-facing pathways.

4.5. Jewellery and hallmarking

Jewellery and precious metals may be treated as a selective sectoral case because ASEAN includes important trading and re-export hubs, particularly Singapore. Singapore imported about US$778.58 million of pearls, precious stones, precious metals, and related articles from India in 2024, indicating a meaningful bilateral trade interface where purity assurance, assay systems, and hallmarking may matter for market confidence. Unlike most industrial goods, cross-border acceptance in this sector depends not only on technical competence, but also on whether the importing jurisdiction legally recognises foreign assay and hallmarking systems. As has been brought out earlier, India's BIS hallmarking system provides domestic assurance through assaying and hallmarking centres which are not accredited and hence not acceptable globally; ASEAN-facing cooperation would therefore require focused dialogue on acceptance of assaying reports from accredited laboratories since the purity standards are identical.

5. Policy Architecture for Cooperation

5.1. Standards cooperation in the AITIGA review architecture

The AITIGA review process provides the principal formal channel for addressing standards-related and regulatory frictions affecting ASEAN–India trade. The review is being advanced through the AITIGA Joint Committee, supported by dedicated sub-committees that can address technical issues affecting trade outcomes.

At the 10th AITIGA Joint Committee meeting in August 2025, the sub-committees that met alongside the Joint Committee included the Sub-Committee on Sanitary and Phytosanitary Measures (SC-SPS), the Sub-Committee on Standards, Technical Regulations and Conformity Assessment Procedures (SC-STRACAP), the Sub-Committee on Rules

of Origin (SC-ROO), and the Sub-Committee on Customs Procedures and Trade Facilitation (SC-CPTF). Within this structure, SPS implementation issues can be routed through SC-SPS, while issues relating to standards, technical regulations, and conformity assessment can be addressed through SC-STRACAP. Documentary and verification issues affecting preference utilisation and border clearance can be taken up through SC-ROO and SC-CPTF (PIB, 2025b).

5.2. ASEAN implementation instruments

ASEAN regional coordination under ACCSQ is operationalised through cross-cutting working groups and sector-specific product working groups that jointly drive ASEAN's standards and conformance agenda. The three cross-cutting working groups cover (i) MRAs and Standards, (ii) Accreditation and Conformity Assessment, and (iii) Legal Metrology. It is complemented by product working groups/ committees that cover, among others, EEE, cosmetics, pharmaceuticals, prepared foodstuffs, traditional medicines and health supplements, automotive, medical devices, rubber-based and wood-based products (UNESCAP, 2016). This ACCSQ machinery provides the regional implementation platform for sector instruments and for the technical governance needed to sustain acceptance of conformity assessment outputs within the agreed scope.

ASEAN's operational guidance on standards, technical regulations and conformity assessment is codified in AG-STRACAP. It sets out modalities for harmonisation, MRAs, regulatory cooperation, harmonised regulatory regimes, transparency and consultation. Importantly, it also links recognition arrangements with post-market surveillance and information exchange, because confidence in regulated markets depends not only on pre-market assessment but also on how non-compliance is detected, reported and corrected (ASEAN Secretariat, 2015).

The complementary ASEAN instrument is its MRA guidance, which clarifies scope limits and sequencing:

First, recognition arrangements reduce duplication within defined scope, but do not automatically remove administrative requirements embedded in technical regulations (e.g., supplier registration, import licensing, product information and labelling), which typically require separate regulatory cooperation tracks.

Second, where coverage is phased by product categories, scope can be managed through annexes that can be updated administratively as confidence and capacity expand. (ASEAN Secretariat, 2018).

5.3. India-side systems that can interface with ASEAN pathways

India has developed sector-specific quality schemes with international alignment potential. The strongest examples are export-facing systems with defined assurance chains. The EIC seafood and other food certification systems and APEDA's NPOP provide stronger examples of India-based systems that have secured external recognition, such as the European Commission (EC). These systems are relevant in ASEAN-facing engagement because they provide identifiable "evidence owners" and documented assurance chains that can be used in regulator-to-regulator confidence-building in inspection- and certification-intensive sectors. (Kher, Jauhri and Stutee, 2026).

Other Indian schemes, such as AYUSH Premium Mark seeks to support quality assurance for Ayurveda, Yoga & Naturopathy, Unani, Siddha, and Homoeopathy (AYUSH) products, while Indian Certification of Medical Devices (ICMED) / ICMED Plus provides certification frameworks for medical devices, both being based on global standards. These schemes are not substitutes for importing-country approvals, but they are relevant to future regulatory cooperation because they represent domestic attempts to organise quality assurance in sectors where global regulatory expectations are stringent and can be considered for acceptance.

A parallel compliance layer arises from private standards and buyer requirements, including recurring audit and documentation obligations

that determine commercial entry into supply chains in food, medical devices, and automotive-related sectors. In the voluntary domain, India has also developed schemes oriented toward external benchmarking or recognition, including forest certification schemes by the Network for Certification and Conservation of Forests (NCCF), which are benchmarked with the Programme for the Endorsement of Forest Certification (PEFC), IndG.A.P. by QCI with potential endorsement by GlobalG.A.P., and the Indian Coffee Sustainability Standards and Certification Scheme (INDICOFS), which aims to benchmark with Global Coffee Platform (GCP).

India's Trade-facing documentation and facilitation have expanded through digitisation, including the Directorate General of Foreign Trade (DGFT) platform for digital Certificates of Origin (CoO), the Department of Commerce's (DoC) linkage of digitised compliance certificates and eCoO 2.0 (electronic Certificate of Origin) to ease-of-doing-business objectives and QCI's proposed QR-enabled verification instruments (e.g., Q Mark/ "Desh ka Haq", online accreditation interfaces, and "Quality Passport"), indicate a move toward traceable and tamper-resistant compliance verification, aimed at reducing fraudulent certificates and enabling more trust-based compliance processes (PIB, 2025a).

5.4. Bilateral pilots as accelerators within a regional frame

Bilateral pilots can serve as accelerators where competent authorities have the capacity to run scoped recognition or acceptance exercises and feed the lessons into wider regional cooperation. The India–Singapore experience is relevant in two ways. First, under CECA, both sides have pursued professional-services MRAs, including nursing recognition, while preserving host-country licensing requirements (RIS, 2017). Second, in May 2025, India and Singapore signed a Mutual Recognition Arrangement of Authorised Economic Operator (AEO) programmes, enabling certified companies under India's AEO programme and Singapore's Secure Trade Partnership-Plus programme to receive

facilitated customs clearance when exporting to each other (Singapore Customs, 2025). The AEO MRA does not address product standards directly, but it is important for trade facilitation because it links trusted traders, documentary verification, reduced inspection burdens and faster clearance. Together, these examples show how bilateral recognition can be scoped, institutionally managed and used as a practical bridge toward wider ASEAN-India cooperation.

5.5. Capacity, MSME Readiness, and Integrity of Conformity Assessment

Recognition pathways are sustainable only when supported by credible oversight, competent conformity assessment, and effective post-market surveillance. ASEAN implementation guidance links recognition arrangements with information exchange and market surveillance. India's own quality-system analysis similarly highlights that greater reliance on third-party conformity assessment can improve scalability, but also creates risks if competence, supervision, and integrity are weak.

MSME readiness must therefore be treated as part of the cooperation agenda. Smaller firms often face recurring costs relating to testing, certification, audits, documentation, traceability, and private buyer requirements (Jauhri, Kher and Stutee, 2026). ASEAN-India cooperation should therefore include sector-specific compliance support, guidance material, helpdesks, training for conformity assessment readiness, and digital tools that reduce documentation burdens without weakening regulatory assurance.

5.6. Data Gap

A major constraint is the absence of a single publicly accessible India–ASEAN database on standards-related trade frictions. Information on testing failures, certification denials, SPS refusals, documentation deficiencies, product recalls and border rejections are dispersed across national regulator notices, commodity board actions, importing-country alert systems, WTO SPS/TBT notifications, media reports and third-

market systems such as the EU Rapid Alert System for Food and Feed (RASFF).

This fragmentation itself is significant. Regulatory cooperation requires not only alignment of standards but also the systematic exchange of information on compliance failures, corrective actions, and risk trends. Without such data, cooperation risks remaining general rather than problem driven.

5.7. India and ASEAN in the Global Quality Infrastructure Index (GQII)

The GQII 2025 provides an evidence-based reference for identifying areas of convergence and complementarity between India and ASEAN economies in quality infrastructure. India ranks 11th overall, with comparatively strong component positions in accreditation (rank 7) and standardisation (rank 8), while its metrology rank is lower (31), reinforcing the value of a function-specific lens rather than a single aggregate comparison. Several ASEAN economies are placed within the GQII Top 100, with differentiated strengths across the three pillars: Indonesia ranks 23 overall with a particularly strong accreditation rank (4); Malaysia ranks 24 overall with a balanced profile and accreditation rank (19); Thailand ranks 29 overall; Singapore ranks 31 overall; Viet Nam ranks 49 overall with a strong accreditation rank (23) but weaker metrology rank (65); and the Philippines ranks 54 overall (Harmes-Liedtke et al., 2026).

This indicates that cooperation should not be framed as a single hierarchy between India and ASEAN. It should instead be function specific. Accreditation-linked pathways may support test report acceptance and certification confidence; inspection-reliance discussions may be relevant in regulated sectors; and digital verification may improve trust in trade documentation. A function-specific approach would allow ASEAN-India cooperation to match institutional strengths on each side rather than assume uniform capacity across sectors or countries.

6. Conclusion

The central task now is to convert ASEAN-India standards cooperation from a dialogue agenda into an implementation agenda. This requires moving sector by sector, identifying where compliance evidence is duplicated, where regulatory confidence is weak, and where digital verification or scoped recognition can reduce avoidable costs for firms.

ASEAN's experience demonstrates that regional cooperation can progress through gradual, sector-led institutional convergence rather than through a single harmonised regulatory regime. For India, the practical pathway lies in building regulator-to-regulator confidence, strengthening digital compliance infrastructure, and expanding acceptance mechanisms where technical credibility and oversight conditions already exist. Future cooperation is therefore likely to evolve through modular arrangements: inspection reliance, digital certification exchange, trusted conformity assessment pathways, competent-authority dialogue, and scoped recognition mechanisms.

Standards and accreditation cooperation should now be viewed as part of economic strategy, supply-chain positioning, and industrial competitiveness. For firms, especially MSMEs, its value will lie in fewer repeated procedures, clearer documentation requirements, faster verification, and more predictable regulatory treatment. In that context, ASEAN-India cooperation on standards and accreditation should be viewed not merely as a trade-facilitation exercise, but as part of building a more resilient, trusted, and future-oriented regional economic relationship.

References

ASEAN Secretariat. (2015). *ASEAN guidelines on standards, technical regulations, and conformity assessment procedures (AG-STRACAP).* ASEAN Secretariat.

ASEAN Secretariat. (2026). *ACCSQ sectoral plan*. Association of Southeast Asian Nations. https://asean.org/wp-content/uploads/2026/01/ACCSQ-Sectoral-Plan-online-version.pdf

ASEAN Secretariat. *Mutual recognition arrangements in services: ASEAN professionals on the move*. ASEAN Secretariat.

Bureau of Indian Standards. (2016). *The Bureau of Indian Standards Act, 2016*. Government of India.

De, P., Kumarasamy, D., & Biswal, K. (2019). *Non-tariff measures (NTMs): Evidence from ASEAN-India trade*. ASEAN-India Centre (AIC) at Research and Information System for Developing Countries (RIS).

European Commission. (n.d.). *Rapid Alert System for Food and Feed (RASFF)*. Directorate-General for Health and Food Safety. https://food.ec.europa.eu/food-safety/rasff_en

Harmes-Liedtke, U., Muñoz, M., Waltos, E., Ramkissoon, A. S., & Schoen, C. (2026). *Global Quality Infrastructure Index report 2025: GQII data & analytics paper (No. 7)*. GQII.

Jauhri, A., Kher, R., & Stutee, O. (2026). *Reimagining India's quality ecosystem*. Research and Information System for Developing Countries (RIS). https://ris.org.in/en/discussion-papers/reimagining-india-quality-ecosystem

Kher, R., & Jauhri, A. (2025**).** Decoding QCOs: Do we need a rethink? (RIS Discussion Paper No. 311). Research and Information System for Developing Countries (RIS). https://www.ris.org.in/sites/default/files/Publication/DP per cent20311 per cent20Rajeev per cent20Kher per cent20and per cent20Anil per cent20Jauhri.pdf

Press Information Bureau. (2025a). *Press release (PRID: 2096786)*. Government of India. https://www.pib.gov.in/PressReleasePage.aspx?PRID=2096786&reg=3&lang=2

Press Information Bureau. (2025b). *India hosts 10th meeting of AITIGA Joint Committee to review ASEAN–India Trade in Goods Agreement; seven sub-committee meetings held on the margins to advance agreement review* (Release ID: 2156828). Ministry of Commerce & Industry, Government of India. https://www.pib.gov.in/PressReleasePage.aspx?PRID=2156828&reg=3&lang=2

Rath, S., Suntwal, T., Rohatgi, A., Goel, K., & Gulati, A. (2025). *Enhancing India's agri-exports to ASEAN: Opportunities and strategies*. AF Press, in association with Indian Council for Research on International Economic Relations (ICRIER).

Research and Information System for Developing Countries. (2017). *India-Singapore CECA: An appraisal of progress*. https://www.ris.org.in/en/node/368

Singapore Customs. (2025, May 21). *Certified companies to enjoy faster clearance for goods traded between Singapore and India* [Media release]. Government of Singapore. https://isomer-user-content.by.gov.sg/174/9e340737-52f4-4afd-8b0f-0a00efc5ee51/2025_05_21_media_release.pdf

South Asian Regional Standards Organization. *About SARSO*. https://sarso.org

United Nations Economic and Social Commission for Asia and the Pacific (UNESCAP). (2016). *Session 13: MRA for goods in ASEAN*. https://www.unescap.org/sites/default/files/Session13-MRA per cent20for per cent20Goods per cent20in per cent20ASEAN.pdf

World Trade Organization. (1995a). *Agreement on Technical Barriers to Trade*. https://www.wto.org/english/docs_e/legal_e/17-tbt_e.htm

World Trade Organization. (1995b). *Agreement on the Application of Sanitary and Phytosanitary Measures*. https://www.wto.org/english/tratop_e/sps_e/spsagr_e.htm

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