Asia-Pacific Economic Cooperation

SURVEY AND WORKSHOP ON MARKET COMPLIANCE MECHANISM FOR SELF-DECLARATION OF STANDARD COMPLIANCE ON TEXTILES AND TEXTILE PRODUCT

PROJECT SUMMARY REPORT

APEC Sub-Committee on Standards and Conformance
February 2026

Asia-Pacific
Economic Cooperation

Survey and Workshop on Market Compliance Mechanism for Self-Declaration of Standard Compliance on Textiles and Textile Product

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APEC Project: SCSC 203 2024T

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APEC#226-CT-01.2

EXECUTIVE SUMMARY

The APEC Project on Survey and Workshop on Market Compliance Mechanism for Self-Declaration of Standard Compliance on Textiles and Textile Product (SCSC 203 2024T) examines the applicability and performance of Self-Declaration of Conformity (SDoC) for textile products across diverse regulatory settings in the APEC region. Through a combined approach consisting of a background study that comprised cross-economy survey, Indonesia's field sampling, and a follow-up workshop, the project provides evidence on how SDoC operates within varying National Quality Infrastructure (NQI) capacities.

Overall, the project achieved its intended outputs and performance indicators. It produced a comprehensive background study synthesizing regulatory practices, standards adoption, and market surveillance systems; implemented an APEC-wide questionnaire capturing regulatory data from participating economies; conducted a field survey in Indonesia to obtain empirical compliance evidence; and successfully convened a regional workshop that facilitated expert dialogue, peer learning, and collective reflection. Together, these outputs fulfilled the project's objectives of strengthening knowledge, building capacity, and informing regional policy discussions on SDoC implementation.

The background study demonstrates three core insights. First, questionnaire results reveal heterogeneous regulatory requirements and uneven SDoC adoption, indicating the need for greater alignment to reduce technical barriers. Second, Indonesia's field survey shows high conformity with chemical safety requirements, with only one minor deviation, underscoring the potential reliability of SDoC when supported by robust verification. Third, workshop deliberations highlight the importance of harmonized test methods, risk-based surveillance, digital traceability, and targeted support for SMEs. These integrated findings offer a scientific basis for advancing more coherent and trustworthy SDoC frameworks across APEC economies.

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I. INTRODUCTION

In the context of trade facilitation and regulatory modernization, Self-Declaration of Conformity (SDoC) has emerged as a preferred compliance model in many economies. It enables manufacturers or importers to affirm under their own responsibility that their products meet the applicable technical regulations and standards, without undergoing third-party certification. This model is recognized by the OECD and WTO as an efficient tool for reducing regulatory burdens and increasing competitiveness, particularly for small and medium-sized enterprises (SMEs).

In line with the risk-based approach outlined by the WTO Technical Barriers to Trade (TBT Committee), Supplier's Declaration of Conformity (SDoC), as a form of first-party conformity assessment, is generally appropriate for products or sectors that present relatively low risks, provided that it is supported by transparent regulatory frameworks, clearly defined roles and responsibilities of regulatory and market surveillance authorities, and effective risk-based post-market surveillance mechanisms to ensure ongoing compliance (WTO, 2024). ISO/IEC 17050-1 further defines SDoC as a procedure by which the supplier gives written assurance that a product, process or service conforms to specified requirements, without the need for independent third-party assessment. SDoC transfers the point of regulatory control from pre-market certification to post-market enforcement. As noted in various WTO workshops and EU regulatory practices, this transition demands a strong foundation in legal accountability, product traceability, and technical oversight to avoid abuse or misrepresentation.

To ensure that self-declared products on the market genuinely comply with applicable standards, a robust and well-coordinated market surveillance system is indispensable. According to the EU's and UNIDO's guidance on good practices, market surveillance plays a critical role in protecting public interests such as health, safety, and fair competition. It consists of activities undertaken by competent authorities to verify that products available on the market meet legal requirements, and it may be conducted proactively (e.g., through planned inspections) or reactively (e.g., in response to complaints or incidents).

Beyond regulatory enforcement, market surveillance has evolved as a strategic tool to monitor the credibility and performance of conformity assessment systems especially in schemes like SDoC, where declarations are made without third-party validation. Drawing on UNIDO's experience in over 14 developing economies, market surveillance methodologies such as short, structured visits to certified entities have proven effective in assessing whether conformity claims result in real-world outcomes (i.e., consistent, conforming products and services). These "market surveillance visits" were not traditional audits, but confidence-checking tools focused on outputs rather than paperwork embodying the principle that "Output matters."

This approach enables regulators, accreditation bodies, or relevant stakeholders to detect systemic weaknesses in certification or declaration processes, identify poorly performing suppliers, and implement targeted corrective measures. It also promotes transparency, traceability, and trust, all of which are essential in SDoC based systems where market entry is fast and inexpensive, but oversight must be vigilant. Therefore, in the context of SDoC, market surveillance is not only a safety net it is the backbone of regulatory credibility.

In Indonesia, SDoC is implemented within the broader risk-based regulatory regime for trade and industrial goods. It applies to a range of consumer products, including textiles and textile products, a sector that is economically vital and inherently sensitive due to potential chemical risks (e.g., azo dyes, formaldehyde, heavy metals). SDoC serves as a mechanism to balance facilitation and protection: reducing delays and costs while maintaining safety and quality standards.

This project, implemented under the APEC Sub-Committee on Standards and Conformance (SCSC), aims to examine the market compliance mechanism for SDoC in the textile sector, with Indonesia as a case study. It focuses particularly on how declarations align with real-world

compliance through post-market surveys involving sampling, inspection, and laboratory testing in selected Indonesian cities. The project also facilitates regional dialogue to compare regulatory models, exchange lessons, and develop shared tools and guidance that support trustworthy and transparent SDoC systems.

Ultimately, the initiative aims to:

- Improve confidence in self-declared compliance mechanisms within APEC,
- Strengthen institutional capacity and regulatory enforcement,
- Support alignment and mutual recognition among economies, and
- Promote safe, fair, and efficient trade in textile products across the region.

II. OVERVIEW

The APEC project on *Self-Declaration of Conformity (SDoC) in Textile and Textile Products* was implemented to support APEC economies in strengthening the effectiveness, transparency, and consistency of post-market compliance systems for SDoC-regulated products. As SDoC shifts regulatory responsibility from pre-market controls to post-market oversight, the project focused on addressing common challenges faced by APEC economies in designing and implementing effective market surveillance mechanisms. Particular attention was given to textile and textile products, which are widely traded across the APEC region and present diverse safety and quality risk profiles. Through research activities, analytical work, and stakeholder engagement, the project sought to support economies in evaluating existing post-market practices and identifying practical approaches to enhance compliance monitoring in line with international good practices

Drawing on lessons from Indonesia's experience and international references such as the EU market surveillance model, ISO/CASCO guidelines, and WTO TBT Committee recommendations, this paper seeks to:

- Present key considerations and risk-based approaches for designing market surveillance mechanisms suitable for SDoC-based conformity models;
- Highlight institutional, technical, and operational elements needed to ensure effective post-market enforcement, including inspection, sampling, documentation verification, and laboratory testing;
- Share practical insights from Indonesia's implementation of SDoC for TTPs, including challenges and opportunities observed through field-level activities and regulatory coordination;
- Foster understanding among APEC member economies on different regulatory models for SDoC and their implications for product safety, consumer protection, and trade facilitation;
- Encourage regional collaboration, information exchange, and alignment of surveillance practices to promote mutual confidence and facilitate movement of compliant textile products across economies;
- Provide inputs for the development of common guidance, diagnostic tools, and capacity building initiatives to support APEC economies in designing or improving their own post-market compliance systems.

Ultimately, this paper aims to promote regulatory trust and transparency in SDoC frameworks and contribute to the development of credible, responsive, and efficient compliance ecosystems for textile products within the APEC region.

2.1. Self-Declaration of Conformity (SDoC)

Self-Declaration of Conformity (SDoC) is a streamlined approach to conformity assessment, where the responsibility for ensuring product compliance lies directly with the manufacturer or supplier. Instead of relying on third-party certification, the supplier declares under their sole responsibility that the product meets the relevant technical regulations or applicable domestic or international standards. This mechanism significantly reduces the time and cost needed to bring products to market, especially for low-risk goods, while still maintaining accountability for safety and quality.

According to ISO/IEC 17000:2020, this is known as a first-party attestation, where the supplier is fully responsible for the conformity declaration. More specifically, the ISO/IEC 17050 series breaks down the SDoC process into two parts: the actual declaration (Part 1) and the supporting documentation (Part 2), both of which must be made available to regulators when requested. This system can be especially helpful in sectors such as textiles and textile products, where flexibility, speed, and cost-efficiency are essential for competitiveness.

The 2005 APEC report on SDoC reinforces this by recognizing its value in enabling smoother trade flows and reducing technical barriers among member economies. However, the success of this mechanism heavily depends on the presence of effective post-market surveillance, clear technical regulations, and strong enforcement systems to ensure ongoing compliance and maintain public trust. In essence, while SDoC simplifies processes and empowers suppliers, it must be backed by robust oversight to ensure that it supports, not undermines, regulatory objectives and consumer protection.

2.2. Procedural Basis

A. International Instruments and Normative Frameworks

The global foundation for the implementation of Self-Declaration of Conformity (SDoC) and its associated market surveillance mechanisms is rooted in the World Trade Organization (WTO) Agreement on Technical Barriers to Trade (TBT) and the guidance from the ISO Committee on Conformity Assessment (ISO/CASCO). The WTO TBT Agreement supports the use of SDoC for low- to medium-risk products, as long as it is complemented by robust regulatory measures, especially post-market controls, to ensure ongoing product compliance and consumer protection.

ISO/IEC 17050-1 and ISO/IEC 17000 define SDoC as a first-party conformity assessment method that must be supported by legal accountability and traceability. The ISO/CASCO “toolbox” provides principles for domestic authorities to adopt or harmonize SDoC procedures with international best practices, encouraging transparency, accessibility of technical documentation, and effective surveillance infrastructure.

B. Domestic Case Study: Indonesia

Indonesia offers a practical example of how Self-Declaration of Conformity (SDoC) can be integrated into a domestic regulatory system that is risk-based, digitally enabled, and legally accountable. The legal framework is established through Minister of Trade Regulation No. 26/2021, which introduces a risk-based classification of products and business activities, and further operationalized by the Director General Decree No. 36/2023, which governs technical requirements for product registration and verification under the Safety, Security, Health, and Environment (K3L) criteria.

In the context of textile and textile products, Indonesia applies the SDoC mechanism to a range of product types that are deemed to have direct or prolonged contact with the body, or that pose potential chemical and physical risks to consumers. Based on regulatory provisions and market characteristics, textile and textile products subject to SDoC and post-market controls are broadly grouped into the following categories:

- Woven or Knitted Fabrics: Includes textiles intended for further processing or retail use in household or fashion products
- General Textile Fabrics: Covers standard textile materials not falling under specialized or cultural categories.
- Batik Fabrics: Recognized for its cultural and chemical complexity, especially in the use of dyes and wax-resistant techniques.
- Children's and Baby Clothing: Subject to stricter controls due to high vulnerability of end users.
- Adult Clothing: Includes shirts, trousers, dresses, and undergarments.
- Towels: Products with frequent and prolonged skin contact, requiring microbiological and chemical safety assurance.
- Fibers and Yarns: Materials used in the production of finished textiles, especially where organic, recycled, or chemically treated fibers are involved.
- Apparel: Includes ready-to-wear products beyond specific demographic classification.
- Other Textile Products: Includes scarves, gloves, headwear, and other accessories.

To place textile products on the Indonesian market under the Self-Declaration of Conformity (SDoC) regime, manufacturers, importers, or distributors are required to complete a registration process through two integrated domestic platforms. The first is SIMPKTN (*Sistem Informasi Manajemen Pengujian Kesesuaian terhadap Ketentuan* K3L), which oversees the management of product verification and laboratory testing. The second is the OSS (Online Single Submission) system, which serves as the centralized digital platform for business licensing and product declaration across all regulated sectors.

This registration process is not merely administrative; it is technically demanding and document-intensive. Economic operators must submit a range of supporting documents, including a valid test report from an ISO/IEC 17025 accredited laboratory, which must be issued within the past six months. Additionally, they must provide a comprehensive description of the product, complete with images and packaging details, as well as a list of distributors or sales points where the product will be marketed. Central to the submission is the SDoC statement, signed by an authorized person within the company, which affirms the product's compliance and legal accountability in accordance with ISO/IEC 17050-1.

Technically, the conformity of textile products is assessed against relevant to Indonesian National Standard (SNI) based on the risk category assigned to each product. The key parameters tested typically cover a combination of chemical safety (including levels of formaldehyde, azo dyes, and heavy metals), physical safety (such as pH balance and fabric strength), color fastness (to washing, perspiration, and rubbing), as well as label accuracy and fiber composition, ensuring that what is declared on the label matches the actual material content.

Once all documentation is validated and the product is deemed compliant, the system generates a K3L registration number, which must be clearly printed or affixed on the product or its packaging. This unique identifier serves as a vital element for traceability, allowing market surveillance authorities to cross-check product declarations during field inspections.

Indonesia's surveillance mechanism is carried out by designated government bodies and combines desk-based verification, on-site inspection, random sampling, and laboratory re testing. Through this structured and enforceable approach, the Indonesian model establishes a strong link between the SDoC process and real-time market compliance. While still evolving, this system demonstrates how SDoC can be effectively embedded within a broader compliance ecosystem and offers a practical reference for APEC economies aiming to strengthen the integrity of their post-market surveillance for textile and textile products.

C. Key Legal and Procedural Elements for APEC Cooperation

To facilitate regulatory alignment and strengthen mutual confidence across APEC member economies, it is essential to identify and apply a common set of key legal and procedural elements that underpin effective Self-Declaration of Conformity (SDoC) mechanisms. These elements, derived from international good practices, provide the foundation for cooperative implementation and regional coherence.

One of the most critical aspects is the clear assignment of legal responsibility for conformity declarations, ensuring that they are signed by individuals who are formally authorized to represent the manufacturer or importer. This legal accountability must be supported by mandatory technical documentation including test reports, product specifications, and compliance statements that must be readily accessible to market surveillance authorities upon request.

In addition, economies are encouraged to adopt enforceable traceability mechanisms, such as the use of unique product identifiers or digital registration systems, to facilitate real-time verification and targeted enforcement. A functioning SDoC regime should also be anchored in risk-based surveillance strategies, where inspection activities, sampling, and laboratory testing are prioritized according to product risk profiles and market intelligence. Regulatory authorities must be granted the necessary powers to conduct inspections, access facilities, and take proportionate enforcement actions when non-compliance is detected.

Given the interconnected nature of trade in the APEC region, cross-border cooperation and data sharing among regulatory bodies are indispensable. These practices not only reduce duplication and resource inefficiencies but also strengthen mutual recognition and trust in each economy's enforcement capability. At the same time, recognizing the diverse regulatory capacities across the region, it is essential that implementation remains flexible, while upholding minimum standards for transparency, accountability, and consumer protection.

To operationalize these shared principles, APEC economies may consider adopting harmonized documentation templates, engaging in regional capacity-building initiatives, and exploring mutual recognition of surveillance outcomes as practical mechanisms to advance convergence. Collectively, these elements form the legal and procedural backbone of a credible, cooperative, and future-ready SDoC framework within the APEC region.

2.3. Mechanism of SDoC and Market Monitoring to Ensure Product Compliance

The Self-Declaration of Conformity (SDoC) mechanism shifts the responsibility for demonstrating compliance with standards and technical regulations from third-party conformity assessment bodies to the manufacturers or suppliers themselves. While this approach is cost effective and facilitates faster market access, it requires a well-established market surveillance system to ensure the continued safety, quality, and compliance of products post-market entry.

Effective implementation of SDoC demands a strategic and structured monitoring mechanism. This typically includes sampling strategies, where products are selected from the market or border points based on risk-based criteria or random selection. Sampling aims to representatively assess compliance levels and detect non-conforming products.

On-site inspections serve as a crucial part of surveillance. These may involve visits to manufacturing or distribution facilities to evaluate production processes, verify label claims, and check for the presence of required documentation. Such inspections are particularly important in ensuring that suppliers maintain internal systems to support their SDoC claims.

Another key element is the review of technical documentation. Authorities may request the Declaration of Conformity and supporting documents, such as product specifications, test reports, and risk assessments, to ensure that the declared product complies with applicable requirements. The ISO/IEC 17050-2 provides guidance on the types of documentation that should accompany an SDoC.

In cases of doubt or for high-risk product categories, laboratory testing may be conducted either by government laboratories or accredited third-party labs. These tests are used to verify the accuracy of the information declared and ensure that the product meets relevant performance and safety standards.

Altogether, this multi-layered monitoring framework ensures that while the market entry process is simplified for businesses, product accountability remains strong. For economies implementing SDoC for textiles and textile products, maintaining this balance between facilitation and regulation is essential to uphold consumer protection, safeguard fair trade, and promote regional confidence in the SDoC system.

This project will also carry out a post-market survey in selected locations across Indonesia, chosen for their strategic role as key hubs for textile importation, manufacturing, and domestic distribution. The purpose of this activity is to gain a clearer picture of how well textile and textile products comply with applicable standards after entering the market under the Self-Declaration of Conformity (SDoC) mechanism.

Using a mixed-method approach, the survey will combine field observations, targeted product sampling, document reviews, and laboratory testing. This holistic method allows authorities and stakeholders to not only verify the accuracy of supplier declarations but also identify potential gaps in implementation and enforcement. Ultimately, the findings will help inform future policy decisions and strengthen the credibility and effectiveness of the SDoC system in protecting consumers while facilitating trade.

The post-market survey consists of several key stages, including Sampling Strategy, Visual Inspection, Documentation Review, and Laboratory Testing. Each stage plays a crucial role sampling helps determine representative product selections from the market; visual inspection identifies obvious non-conformities; documentation review ensures that the required SDoC paperwork is complete and accurate; and laboratory testing provides scientific validation of product compliance with relevant standards. Together, these steps aim to build a stronger evidence base for improving monitoring systems and reinforcing trust in the SDoC mechanism.

2.4. Challenges

While the Self-Declaration of Conformity (SDoC) mechanism offers an efficient and trade-enabling approach to product compliance, its implementation particularly in the textile and textile product sector faces several persistent challenges across the APEC region, including:

- Divergent regulatory capacities across APEC economies
  The varying levels of institutional readiness and technical capability among member economies result in inconsistent implementation, monitoring, and enforcement of SDoC systems
- Limited post market surveillance infrastructure
  Many economies face constraints such as a shortage of qualified inspectors, inadequate laboratory capacity, and the absence of risk-based monitoring frameworks, which weakens the credibility of SDoC-based compliance.
- Inconsistent technical documentation requirements
  A lack of uniformity in declaration formats and supporting documentation requirements hampers regulatory traceability and the ability to hold suppliers accountable in cases of non-compliance.
- Lack of harmonized standards and product risk classification
  Differences in technical requirements, product categories, and safety thresholds (e.g., chemical content, labelling criteria) across economies create confusion for manufacturers and hinder seamless cross-border trade.
- Law awareness and limited compliance capacity among SMEs

Many small and medium-sized enterprises (SMEs) lack sufficient understanding of their obligations under SDoC schemes and struggle to implement adequate internal quality assurance systems.

- Weak cross border coordination and information sharing
  The absence of regional mechanisms for exchanging market surveillance data, alerts on non-compliant products, and recognition of inspection results limits mutual trust and slows regulatory convergence.

III. PROJECT ACTIVITIES

3.1. Research work

The analytical components presented in this chapter were developed to provide a structured and comprehensive basis for assessing market compliance mechanisms and the implementation of Self-Declaration of Conformity (SDoC) for textiles and textile products (TPT) across the APEC region. The first component consists of an APEC wide questionnaire survey designed to systematically collect information on regulatory frameworks, applicable standards, testing requirements, and post-market surveillance practices related to TPT, enabling comparability across diverse regulatory environments and identifying gaps, challenges, and opportunities for alignment. The questionnaire captured data on domestic standards used by participating APEC economies and their corresponding international references, the scope of regulated textile products, chemical safety parameters, and the conformity assessment mechanisms applied ranging from SDoC and product registration to market surveillance structures and mutual recognition practices. Complementing this regional survey, the second component comprises a field survey conducted in Indonesia, which integrates label inspection, document verification, and accredited laboratory testing to evaluate the conformity of towel and bed sheet products with Safety, Security, Health, and Environmental Protection (K3L) requirements, thereby providing empirical evidence on the performance of SDoC in an actual market setting Together, these tools combine structured data collection with contextual, evidence-based analysis, ensuring that both regional policy perspectives and domestic market realities are systematically captured. This integrated approach strengthens the analytical foundation of the project and supports the formulation of targeted, practical recommendations for enhancing SDoC credibility, market surveillance effectiveness, and regulatory cooperation among APEC economies.

1) Research Work on Survey Market Compliance Mechanism for Self-Declaration of Standard Compliance on Textiles and Textile Product in The APEC Region

The assessment tools, survey questionnaire developed under this project was designed to provide a systematic and comprehensive mechanism for collecting and analysing information on market compliance mechanisms for Self-Declaration of Conformity (SDoC) applied to textiles and textile products (TPT) across participating APEC economies. This tool combined structured data gathering with contextual analysis to ensure comparability across diverse regulatory and technical frameworks, while also identifying areas in which regulatory coherence can be strengthened. The questionnaire served as the primary instrument for mapping existing practices, focusing on the standards and technical regulations adopted by economies, the safety and chemical parameters enforced, the categories of textile products regulated, and the conformity assessment approaches currently applied including SDoC, product registration, laboratory testing requirements, and post-market surveillance arrangements. In addition, the survey sought detailed information on the legal basis for regulation, the authorities responsible for enforcement, the use of international standards

as references, and the extent to which test reports and conformity assessment outcomes are recognized or accepted across borders. The questionnaire further incorporated elements aimed at capturing qualitative insights, including challenges faced by regulators, common compliance issues observed in domestic markets, and priority areas where economies seek further harmonization or capacity building. To complement the survey instrument, supporting desk analysis and documentation review were undertaken to contextualize variations in regulatory approaches, differences in market surveillance capacity, and the degree of reliance on international standards within the region. Feedback from participating economies, including regulators, conformity assessment bodies, and industry stakeholders strengthened the analytical depth of the survey by highlighting practical barriers and opportunities for enhancing trust in SDoC mechanisms. Collectively, the questionnaire and its supporting analytical inputs provided a robust evidence base for assessing regional trends, understanding implementation challenges, and informing subsequent recommendations to improve market compliance systems and regulatory cooperation on textile products within the APEC region.

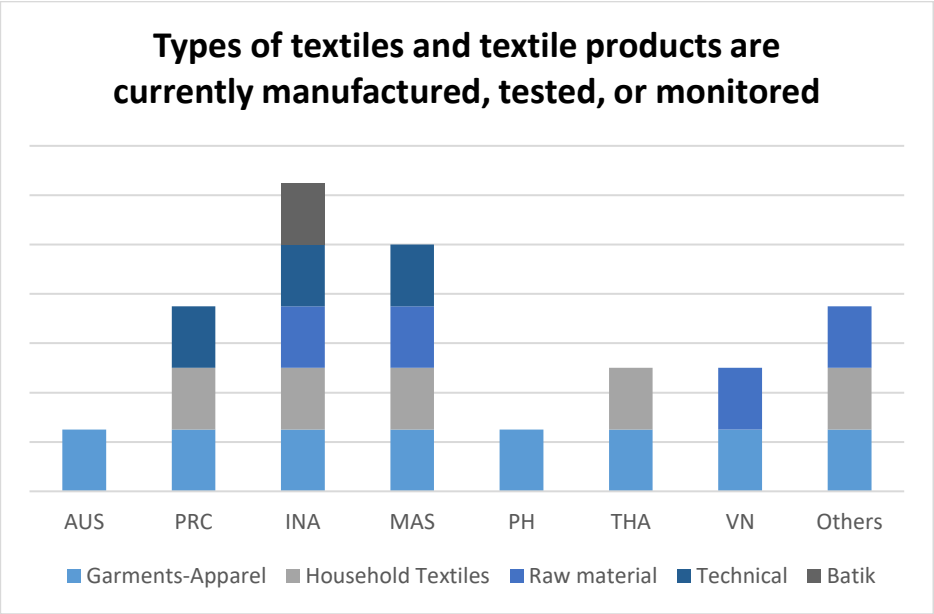
a. Survey Framework, Methodology, and Participating APEC Economies

The survey framework for this project was grounded in a research work package comprising two core components: a background paper and survey questionnaire. The background paper was developed first to establish a common analytical foundation, outlining relevant regulatory frameworks, standards, and implementation considerations for Self-Declaration of Conformity (SDoC) on textiles and textile products (TPT) in the APEC region. This document served to guide the interpretation of key concepts and to ensure that all participating economies approached the subsequent data collection with a shared understanding of scope and objectives. Following its completion, the background paper and questionnaire were circulated together to APEC economies as an integrated research tool.

The questionnaire was designed to systematically capture information from economies on domestic standards, international references, chemical and safety requirements, conformity assessment mechanisms, and existing market surveillance practices. It also gathered qualitative insights on implementation challenges and the perceived balance between SDoC and certification approaches. Inputs were received from a diverse set of respondents including government regulators, conformity assessment bodies, industry representatives, and ISO, covering economies such as Australia; Canada; People's Republic of China (PRC); Indonesia; Malaysia; The Republic of the Philippines; Thailand; and Viet Nam. While no formal comments were provided on the background paper itself, substantial feedback was reflected through questionnaire responses and workshop discussions.

The research work collectively highlighted that SDoC offers potential benefits for improving market access and reducing regulatory barriers, but that its effective implementation depends on legal clarity, accessible supporting documentation, risk-based inspection strategies, and strong institutional coordination. Feedback from economies also pointed to differences in regulatory systems, variations in risk classification for TPT, and differing views on the appropriate use of SDoC versus third-party certification. These insights helped identify both opportunities and barriers to broader regional adoption and also underscored the future need for common APEC guidance and capacity-building tools. Through this sequential and integrated approach, the research work provided a coherent methodology for mapping regulatory frameworks and practical challenges, forming a strong evidence base for regional dialogue and policy recommendations under this project.

b. Type of Textiles and Textile Products and Export-Import Activities



Picture 1. Types of Textiles and Textile Products (manufactured/tested/monitored)

The survey results indicate that APEC economies are engaged in a wide spectrum of textile and textile-related activities, ranging from the production of garments and household textiles to the manufacturing and monitoring of industrial and technical fabrics such as geotextiles. This breadth reflects the diverse structure of the textile and textile product (TPT) sector across the region and confirms that SDoC implementation must consider a broad variety of product categories. Across all respondents, garments and apparel consistently emerged as the most widely produced, tested, and monitored category, with 100% of participating economies indicating active National Quality Infrastructure (NQI) involvement for these products. This is followed by household textiles, reported by approximately 60% of respondents, including items such as towels, napkins, curtains, and bedding products. Raw materials (e.g., yarn, fibers) and technical textiles were also mentioned, though with lower prevalence, reflecting varying levels of industrial development and market structure across economies. These findings confirm that the SDoC landscape for TPT encompasses both consumer-oriented textile goods and more specialized industrial products.

Table 1. Export and Import Activities of Textiles and Textile Products Reported by Participating APEC Economies

Economy	Export Products	Main Destinations	Import Products	Main Sources
Australia	Garments (uniforms)	Canada; Singapore; USA	Garments, footwear	China; Indonesia; Viet Nam (garments); China (footwear)
People's Republic of China	Wide range of textiles; "Made in Green" textiles need certification	APEC markets incl. ASEAN, USA	Fabrics, garments	Imports monitored by GACC & SAMR

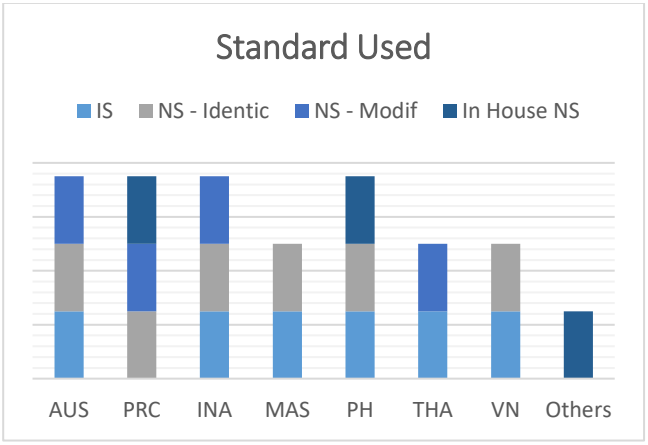
Indonesia – BSN	Baby clothes, woven/knitted fabrics, towels, bedding items	APEC economies (general)	Woven/knitted fabrics, apparel, home textiles	APEC economies (general)
Malaysia	Fibre, yarn, fabric → Viet Nam; Garments → Singapore; Worn clothing → Japan	Japan; Singapore; Viet Nam	Yarn, fabric, garment; fabric for manufacturing	China; Indonesia; Japan; Korea
Thailand	Apparel, garments, fabrics	APEC economies	Synthetic dye textiles, garments	APEC economies (details not specified)
Viet Nam	Low-risk textiles under SDoC; garments HS 61–63; exports require certification	APEC markets (esp. ASEAN, USA, EU)	Raw materials, fabrics	China, ASEAN neighbors

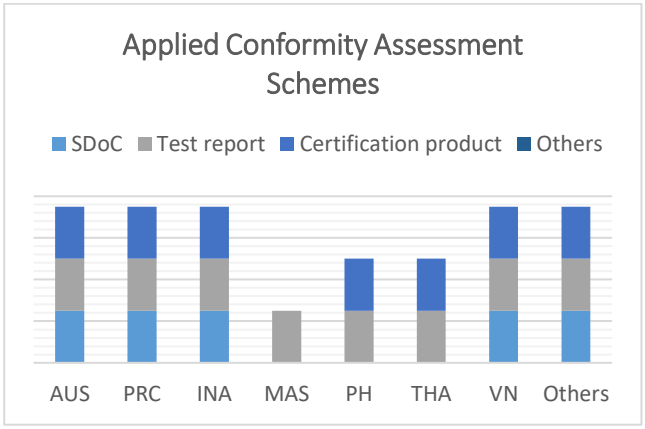
Export and import activities reported through the questionnaire further demonstrate a high degree of interconnectedness among APEC economies. Trade flows in garments, fabrics, and raw materials are strongly interlinked, indicating the presence of regional supply chains and the movement of intermediate textile goods across borders. For instance, Indonesia exports baby clothing, knitted fabrics, and bedding items to various APEC markets, while simultaneously importing woven fabrics, apparel, and household textiles from other APEC economies. Malaysia exports fiber, yarn, and garments primarily to Japan; Singapore; and Viet Nam while importing garments, fabrics, and manufacturing inputs from China; Indonesia; Japan; and the Republic of Korea. Australia, on the other hand, exports uniforms mainly to Canada; Singapore; and the United States, and imports garments and footwear predominantly from China; Indonesia; and Viet Nam. Similar patterns are observed in other respondent economies: Viet Nam exports apparel to major markets such as Japan; Republic of Korea; and the USA while importing fabrics and raw materials from China and regional neighbors; and China exports a wide range of textiles including “Made in Green” products to ASEAN economies and the USA while importing specific textile categories for domestic processing and manufacturing.

These export – import dynamics demonstrate that the TPT sector in APEC operates through integrated regional value chains, where intermediate goods, fabrics, yarns, and finished garments circulate extensively across economies. Such interdependency reinforces the importance of effective and credible SDoC mechanisms, given that products often move through multiple jurisdictions before reaching consumers. It also underscores the need for improved regulatory coherence, transparent testing requirements, and risk-based approaches that can support smoother trade flows while maintaining consumer safety and market fairness.

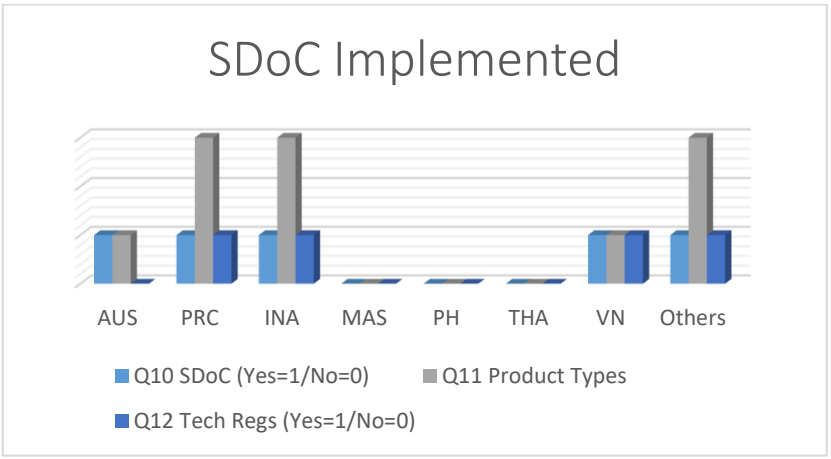
Overall, the survey findings highlight the diversity of textile product categories managed under SDoC and the substantial cross-border movement of textile goods within APEC. These patterns provide important context for understanding the regulatory complexities faced by economies and demonstrate why enhancing SDoC credibility, harmonizing relevant standards, and strengthening post-market surveillance are critical for supporting efficient and trusted textile trade across the region.

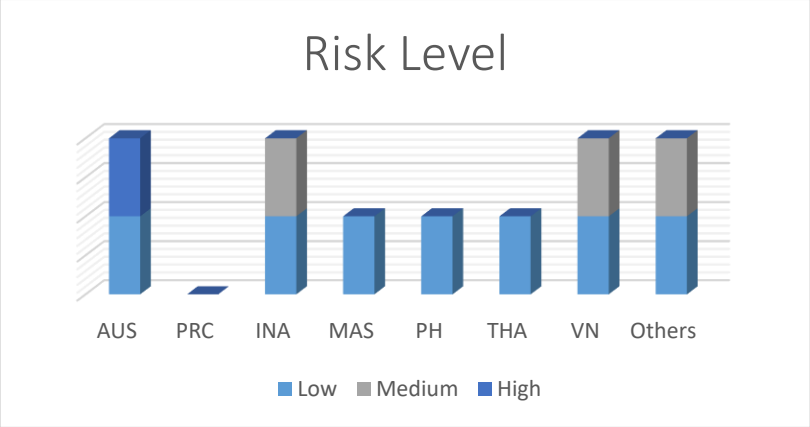
c. Standards and Technical Regulations in APEC Economies





Picture 2. Comparison of Standards Used and Conformity Assessment Schemes in APEC Economies





Picture 3. SDoC Implementation and Product Risk Classification Across APEC Economies

Survey results show substantial diversity in the standards and technical regulations applied to textiles and textile products (TPT) across APEC economies. Economies use different types of standards including international ISO standards, modified ISO standards, national standards, and in some cases in-house or national standards tailored to local needs. For example China applies GB/T standards such as GB/T 3917 and GB/T 14272; Malaysia adopts the ISO 105 series identically; and Thailand modifies ISO to develop its TIS standards. Other economies, like Indonesia and Viet Nam, use domestically adopted standards aligned with international references. These variations reflect differing regulatory philosophies, with some economies treating textiles as lower-risk consumer products while others place stronger emphasis on chemical safety or children's textiles.

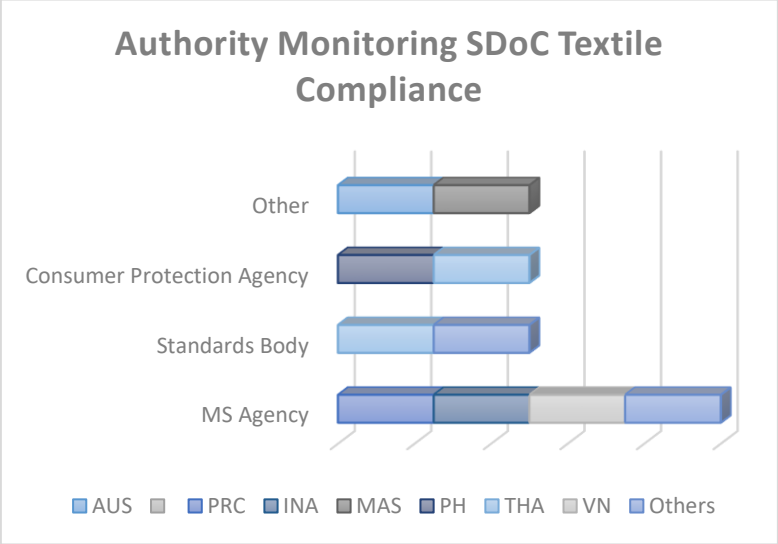
Differences are also seen in the conformity assessment schemes applied. While many economies use SDoC for at least part of the textile sector, the scope varies widely. Some rely on test reports or third-party certification for higher-risk products or for export categories. China requires test reports and certification for selected categories, while Viet Nam applies SDoC for low-risk textiles but certification for exports. Malaysia focuses primarily on labeling and consumer protection requirements, whereas Indonesia implements an SDoC system supported by mandatory registration under Trade Regulation No. 21/2023. These patterns illustrate that economies balance SDoC, testing obligations, and certification differently based on risk perceptions, enforcement capacity, and regulatory design.

Safety and quality testing requirements further highlight regulatory variation. China applies comprehensive GB safety codes; and Malaysia regulates performance-related attributes such as strength and humidity. Thailand controls formaldehyde and synthetic dyes, while Viet Nam requires testing for azo dyes, formaldehyde, heavy metals, and flammability. Indonesia enforces SNI-based testing that includes chemical safety parameters such as azo dyes, formaldehyde, heavy metals, and total phthalates. These requirements are implemented through different authorities and regulatory instruments: Australia references OEKO-TEX 100 and REACH; China under its Product Quality and Standardization laws; Malaysia under OSHA; The Republic of the Philippines through its FDA; and Viet Nam and Indonesia through decrees and SNI-based regulations.

Together, these differences in standards, conformity assessment pathways, and safety testing obligations illustrate a highly heterogeneous regulatory landscape for textiles across APEC economies. This diversity creates practical challenges for suppliers and exporters who must meet varying technical requirements, navigate overlapping test regimes, and adjust to differing levels of regulatory oversight. It also underscores the importance of improving regulatory coherence and exploring cross-border approaches to reduce duplication and enhance confidence in SDoC

implementation—topics further examined in the following section on mutual recognition and acceptance of test reports.

d. Market Surveillance and Compliance Monitoring



Picture 4. Authorities Responsible for Monitoring SDoC Compliance in APEC Economies

The figure shows that monitoring authorities differ across all participating APEC economies, reflecting distinct regulatory structures and enforcement capacities. Australia relies on arrangements between suppliers and buyers, in which monitoring obligations are embedded in commercial agreements rather than coordinated by a central agency. China implements surveillance through GACC and SAMR, supported by random testing and market-level inspections. Malaysia does not apply SDoC to textiles; instead, it monitors compliance through the Consumer Protection Act and DOSH oversight for specialized protective garments. The Philippines assigns responsibility to its Food and Drug Administration for regulated medical textiles. Thailand's surveillance responsibilities lie with its Department of Industrial Works and related agencies overseeing chemical safety in garments. Viet Nam conducts surveillance under the Ministry of Industry and Trade, which mandates periodic checks based on product risk. Indonesia performs monitoring through the Ministry of Trade and technical agencies under the SDoC registration framework in MoT Regulation No. 21/2023. Taken together, the figure illustrates that authority structures are not aligned across the region, with each economy adopting a model that fits its domestic regulatory system.

Table 2A. Monitoring Methods for Textile SDoC Compliance in APEC Economies

Economy	Random inspection	Doc Verif	On site inspection	Post Market Surveillance	Consumer complaint-based	Other
AUS	-	v	-	-	-	-
PRC	-	-	-	v	v	-
INA	v	-	-	v	-	-
MAS	v	-	v	-	v	-
THA	v	-	-	-	v	-
VN	v	-	-	-	-	-
Others	v	v	v	v	v	-

Note: *indicates that the monitoring method is applied. Blank cells indicate that the method is not commonly applied or not reported by respondents.*

Table 2B. Frequency of Monitoring Activities for Textile SDoC Compliance in APEC Economies

Economy	Regularly	Annually	Ad-hoc	Other
AUS	v	-	-	-
PRC	-	v	-	-
INA	v	-	v	-
MAS	-	-	-	v
THA	-	v	-	-
VN	v	-	-	-
Others	v	-	-	-

Note: *Frequency reflects the general approach to monitoring activities and may vary depending on risk level, product category, or enforcement priorities.*

Tables 2A and 2B present

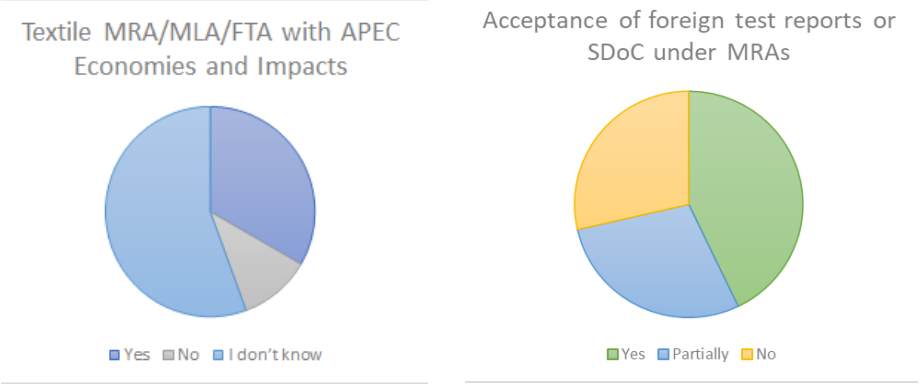
A cross-economy comparison of monitoring methods and surveillance frequency applied to ensure SDoC compliance for textile and textile products across APEC economies. The tables show that economies employ a combination of regulatory approaches, reflecting differences in institutional arrangements, product risk profiles, and enforcement capacities.

In terms of monitoring methods, Australia applies supplier and buyer obligations supported by product-specific risk assessments, while PRC implements random testing and routine market checks through customs and market regulatory authorities. Malaysia enforces compliance under the Consumer Protection Act, with monitoring activities primarily focused on labelling accuracy and product claims rather than chemical safety parameters. The Philippines conducts inspections of regulated medical textiles under FDA oversight, whereas Thailand focuses on chemical safety surveillance, including dyes and formaldehyde, through periodic inspections. Viet Nam applies a

structured risk-based approach, with more frequent sampling for higher-risk products and less frequent checks for lower-risk categories. Indonesia undertakes post-market supervision, product sampling, and SDoC document verification as part of the K3L registration process.

With respect to surveillance frequency, the comparison highlights significant variation across economies, ranging from structured and scheduled risk-based monitoring systems (e.g. Viet Nam) to more reactive approaches that rely on complaints or targeted inspections. This diversity underscores that effective market surveillance is a key determinant of SDoC credibility and that its implementation varies according to regulatory context and capacity across APEC economies.

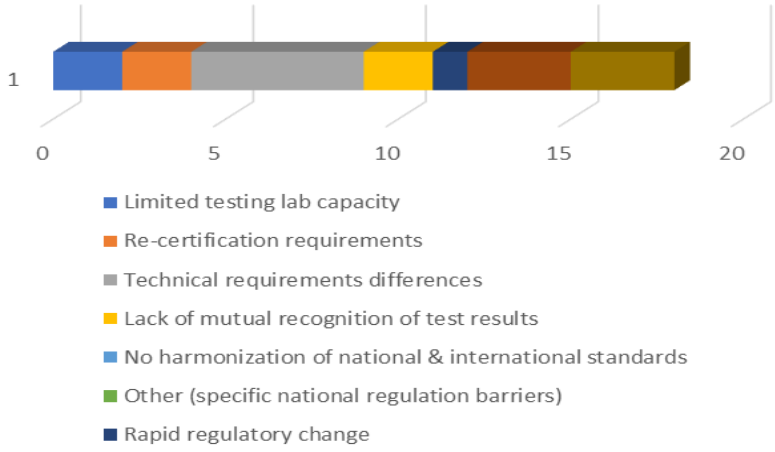
e. Mutual Recognition and Cross-Border Acceptance



Picture 5. Mutual Recognition and Cross-Border Acceptance

The first figure summarizes the extent to which participating economies have mutual recognition arrangements (MRAs, MLAs, or FTAs) related to textiles and textile products, and whether they accept test reports or SDoC issued in other APEC economies. Most conformity assessment bodies (CABs) in the region operate under accreditation to ISO/IEC 17025 or ISO/IEC 17065, providing a strong technical foundation for mutual recognition. Survey responses indicate that more than half of economies reported having MRAs, MLAs, or FTAs that include provisions relevant to textiles either government-to-government or business-to-business agreements. These arrangements generally help reduce duplication of testing and facilitate cross-border regulatory confidence.

However, acceptance of foreign conformity assessment results is far more fragmented. China; Malaysia; and Thailand recognize test reports issued by laboratories accredited through ILAC/APLAC MRAs, allowing textile testing conducted abroad to be accepted without repeated testing. Indonesia and Viet Nam indicated partial acceptance, typically requiring additional document verification or limiting acceptance to certain product categories. Australia reported no acceptance for textile test reports or SDoC from foreign economies and require testing to be performed by domestic or locally recognized laboratories. This uneven acceptance landscape means that, despite strong accreditation infrastructure across the region, cross-border use of test results remains inconsistent, leading to repeated testing, higher conformity assessment costs, and barriers to efficient trade.



Picture 6. Challenges in Mutual Recognition and Conformity Assessment Across APEC Economies

The second figure highlights the main challenges that restrict broader mutual recognition and cross-border acceptance of test reports and SDoC. Respondents identified several recurring issues, including differences in technical requirements and domestic standards, which create misalignment that prevents automatic recognition of test results. Limited laboratory capacity, particularly in developing economies, further inhibits the ability to participate effectively in MRAs or provide test results that can be widely accepted. Re-certification requirements remain a major concern, as products tested abroad must often undergo additional testing or local certification to meet domestic mandates.

A critical challenge expressed by respondents is the lack of mutual recognition of test results, despite widespread accreditation of CABs to international standards. Many economies require retesting even when laboratories are accredited to ISO/IEC 17025 under ILAC MRAs, reflecting regulatory caution or differences in risk profiles. Additionally, several respondents cited non-harmonized safety and chemical requirements, which make it difficult to establish equivalence across jurisdictions. These factors collectively contribute to continued technical barriers to trade and limit the full operationalization of SDoC in a cross-border context. The persistence of these challenges underscores the need for greater alignment of technical regulations, clearer acceptance pathways, and strengthened cooperation among APEC economies.

The survey findings revealed diverse regulatory practices and trade patterns for electronic household appliances (EHA) across APEC economies. Each economy applies different scopes of regulation to household appliances, reflecting variations in domestic priorities, consumer safety concerns, and market conditions.

In terms of regulated product categories, the scope differs widely. Australia regulates all household appliances that fall under the Electrical Equipment Safety System (EESS), with examples including electric irons, fans, hair dryers, washing machines, rice cookers, and refrigerators. Malaysia requires prior approval for 34 categories of electrical equipment before they can be imported, manufactured, displayed, sold, or advertised, which includes products such as juicers, blenders, and mixers. Singapore classifies EHA products as controlled goods under the Consumer Protection (Safety Requirements) Registration Scheme, with details listed in the official List of Controlled Goods. Indonesia regulates a broad range of appliances, including electric kettles, vacuum cleaners, hair and skin appliances, microwaves, contact grills, air conditioners, water pumps, toasters, water heaters, showcases, induction cookers, choppers, and batteries. Thailand focuses on specific categories such as microwave ovens, electric frying pans, and deep fat fryers. Viet Nam regulates PVC-coated wire with rated voltage up to 450/750 V, storage water

heaters, instantaneous water heaters, kettles, and electric grillers or roasters. Chile reported no applicable regulatory body in this sector.

Trade activities further highlight the interconnectedness of EHA markets in the region. On the export side, Australia supplies products primarily to New Zealand and other APEC economies. China confirmed significant export activity across a wide range of appliances. Indonesia exports televisions to Malaysia; Thailand; and Viet Nam; refrigerators to the Philippines; and other products including to Canada; Korea; and the United States, demonstrating its role as both a regional and global supplier. Thailand reported active engagement in both import and export of EHA products within the APEC region.

Imports are equally significant. Australia relies heavily on imports from China. China itself sources hair dryers and dishwashers from Japan, washing machines from Korea, and ovens and cooking machines from the United States. Malaysia allows imports but only through registered importers holding Certificates of Approval (COA). Singapore, as regulator, does not engage in import or export activities. Indonesia imports a wide array of appliances: washers, refrigerators, chest freezers, rice cookers, blenders, and mixers from China and Thailand; air conditioners, washing machines, and ovens from China; and water dispensers from both China and Korea. Papua New Guinea (PNG) reported that its domestic market imports nearly all regulated EHA products from Australia; China; Indonesia; and Malaysia.

These patterns illustrate the complex and highly integrated nature of trade in EHA across the APEC region. The coexistence of diverse domestic regulatory requirements with active import and export flows emphasizes both the opportunities and challenges of harmonization. On one hand, there is significant potential to facilitate trade by aligning standards and conformity assessment regimes. On the other, the differences in product scope and risk classification approaches across economies underline the need for a strategic framework to minimize technical barriers while ensuring consumer safety and fair competition.

f. Key Findings from APEC Economies on SDoC for Textiles

Survey responses reveal several cross-cutting insights regarding the current implementation, challenges, and support needs for SDoC in the textile sector across APEC economies. While textiles are generally regarded as low-risk consumer products, regulatory approaches vary widely. Economies differ in the extent to which they regulate chemical safety, labelling, flammability, and children's products, resulting in a patchwork of requirements that affect cross-border trade. This regulatory diversity is consistently identified as the most significant challenge, with 50% of respondents citing differences in regulations as the primary obstacle to broader market alignment.

Another key finding concerns the inconsistent application of SDoC. Some economies have fully adopted SDoC for low-risk textile categories, while others rely on test reports or third-party certification, and several economies do not implement SDoC for textiles at all. This inconsistency directly impacts market access, with five of eight responding economies reporting that SDoC has a positive market impact particularly in reducing cost, shortening time-to-market, and supporting regulatory efficiency while three economies reported no measurable impact due to limited or absent SDoC frameworks.

The survey also highlights that testing requirements frequently overlap, especially where economies mandate additional or repeated testing despite products already being tested in accredited laboratories abroad. This duplication burdens exporters and manufacturers, increasing compliance costs and delaying product entry into regional markets. Limited laboratory capacity and testing infrastructure reported by 25% of respondents further compound these challenges.

Differences in market surveillance systems also emerged as a key issue. While some economies conduct systematic post-market controls, others rely on sporadic or complaint-driven inspections. As a result, surveillance coverage and enforcement strength vary substantially across

the region. Respondents indicated that lack of coordination among stakeholders (30%) and limited resources (20%) impede effective oversight.

Finally, the survey shows that mutual recognition arrangements (MRAs) remain underutilized, even though most laboratories and conformity assessment bodies (CABs) in APEC are already accredited to ISO/IEC 17025 or ISO/IEC 17065. A number of economies maintain MRAs or FTAs that could support cross-border acceptance of test results, but acceptance remains inconsistent: some economies recognize ILAC-MRA test reports, others accept them only partially, and several economies do not accept foreign reports at all. This contributes to repeated testing and prevents economies from fully leveraging existing international accreditation infrastructure.

Taken together, these findings reflect both the opportunities and the barriers associated with implementing SDoC for textiles in the APEC region. Economies see potential benefits including improved regulatory efficiency, reduced market-entry costs, and greater support for trade but progress is constrained by divergent regulatory approaches, overlapping testing obligations, limited surveillance capacity, and incomplete utilization of MRAs.

2) Field Survey in Indonesia: Monitoring and Sampling of Towel and Bed Sheet

The field survey assessed the conformity of towel and bed sheet products with Indonesia's K3L (Safety, Security, Health, and Environmental Protection) requirements and evaluated the effectiveness of the Self-Declaration of Conformity (SDoC) mechanism applied to textile products. A total of 20 samples; 10 towels and 10 bed sheets were collected across five cities and subjected to labelling checks, traceability verification, and accredited laboratory testing. Testing covered key chemical safety parameters, including formaldehyde, azo dyes, and heavy metals, following methods mandated by the Ministry of Trade regulation and PKTN technical guidelines.

All samples displayed valid K3L registration numbers and were traceable in the domestic database. Laboratory results showed full compliance for all bed sheet samples and 90% compliance for towel samples, with one towel from Padang slightly exceeding the formaldehyde limit. Overall, the survey indicates strong market compliance while highlighting isolated risks linked to finishing processes. The findings reinforce the need for improved process controls, enhanced internal QC by manufacturers, and risk-based post-market surveillance. Strengthening integration between SDoC documents, testing evidence, and regulatory monitoring is recommended to ensure transparency and maintain credibility of the SDoC system.

a. Context, Objectives and Scope of the Field Survey

The field survey was undertaken to assess how towel and bed sheet products placed on the Indonesian market under the Self-Declaration of Conformity (SDoC) mechanism perform in practice against domestic K3L (Safety, Security, Health, and Environmental Protection) requirements. As part of APEC's initiative to strengthen SDoC implementation and post-market monitoring, Indonesia was selected as a case study due to its large textile market and established regulatory framework. Towels and bed sheets were chosen as the focus because they are regulated under the Ministry of Trade Regulation No. 26/2021 jo. 21/2023, are in direct and prolonged contact with human skin, and present measurable chemical safety risks—including formaldehyde, azo dyes, and heavy metals. These products also represent a significant share of household textiles circulating across both domestic and imported supply chains.

The survey aimed to: (i) verify market compliance with labeling, traceability, and chemical safety requirements; (ii) assess the accuracy of supplier declarations under SDoC; (iii) identify non-conformities and their likely root causes; and (iv) generate evidence-based recommendations for regulators, industry, and APEC economies.

Field activities covered five cities Jakarta, Surabaya, Yogyakarta, Padang, and Manado and included label inspection, verification of K3L registration numbers, and accredited laboratory testing of selected samples. The scope therefore encompassed administrative checks, chemical

parameter testing, and documentation reviews to provide a representative picture of SDoC implementation for home textile products in Indonesia.

b. Regulatory and Standards Framework

Indonesia's regulatory and standards framework for textile safety underpins the field survey and ensures that towel and bed sheet products entering the market comply with K3L (Safety, Security, Health, and Environmental Protection) requirements. At the international level, the textile sector is governed by ISO/TC 38 standards, which provide harmonized test methods and performance criteria for chemical safety, physical properties, labeling, and environmental aspects. Key standards referenced in this survey include ISO 14184-1 for formaldehyde, ISO 24362-1/3 for azo dyes, and SNI 7334:2009 for heavy metals—all of which have been adopted as SNI ISO to support domestic regulatory implementation.

Domestically, the Regulation of the Minister of Trade No. 26/2021 jo. 21/2023 establishes mandatory K3L requirements for specific textile products, including towels and bed sheets, defining applicable parameters and test methods.

Table 3. K3L Requirement on Towel and Bed Sheet Products

Product Group	Product Description	Test Parameters	Chemical Substances	Safety Requirement	Test Method	Remark
Textile Product (Towel)	**Towel**, made from a blend of cotton and/or cotton and synthetic fibers, used for the body and/or face.	Extracted Heavy Metals	Cd (Cadmium)	Max 0,1 mg/kg	SNI 7334:2009	
			Cu (copper)	Max 25,0 mg/kg		
			Pb (Lead)	Max 0,2 mg/kg		
			Ni (Nickel)	Max 1,0 mg/kg		
		Formaldehyde	Formaldehyde	Not Detected (Max 16 mg/kg)	SNI ISO 14184-1:2015	The detection limit of the test method is a maximum of 16 mg/kg.
		Azo Compounds	22 Azo Compounds that Release Aromatic Amines upon Reduction	Max 20 mg/kg	SNI ISO 24362-1:2015/ SNI ISO 24362-3 : 2015	The detection limit of the test method is a maximum of 20 mg/kg. Test results below 20 mg/kg are reported as not detected
Textile Product (Bedsheet)	**Bedsheet** made of cotton, and/or a blend of cotton and	Extracted Heavy Metals	Cd (Cadmium)	Max 0,1 mg/kg	SNI 7334:2009	
			Cu (copper)	Max 25,0 mg/kg		
			Pb (Lead)	Max 0,2 mg/kg		

Product Group	Product Description	Test Parameters	Chemical Substances	Safety Requirement	Test Method	Remark
	synthetic fibers, and/or fully synthetic fiber materials.		Ni (Nickel)	Max 1,0 mg/kg		
		Formaldehyde	Formaldehyde	Not Detected (Max 16 mg/kg)	SNI ISO 14184-1:2015	The detection limit of the test method is a maximum of 16 mg/kg.
		Azo Compounds	22 Azo Compounds that Release Aromatic Amines upon Reduction	Max 20 mg/kg	SNI ISO 24362-1:2015/ SNI ISO 24362-3 : 2015	The detection limit of the test method is a maximum of 20 mg/kg. Test results below 20 mg/kg are reported as not detected

Complementary provisions, such as PKTN Decree No. 36/2023, outline sampling procedures and administrative controls for both imported and domestically produced goods.

Table 4. Technical Guidance on Sampling and Testing K3L Products (Towel and Bed Sheet)

Product Group	Color	Remarks on Testing Sample	
		Total Sample	Notes
Towel	Contains max 3 main colors (red, yellow, green, blue, orange, brown, black, purple)	Min. 2 pcs (with area of 1m^2), 2 pcs (big), or 3 pcs (small)	1. Products included in this product group category include hand towels, kimono towels, hair towels, bath towels, and washcloths. 2. Oven mitts are not included in the scope of this product group and therefore are not required to be registered for HSE (Health, Safety, and Environment) compliance.
Bedsheet	Contains max 3 main colors (red, yellow, green, blue, orange, brown, black, purple)	- 1 sheet with size of ≥90cm x 200cm - 3 sheets with size of <90cm x 200cm	1. Baby bedsheets are included within the scope of this product group and are therefore required to be registered for HSE (Health, Safety, and Environment) compliance.

Product Group	Color	Remarks on Testing Sample	
		Total Sample	Notes
			2. If bedsheets, pillowcases, bolster cases, and bedcovers are sold as a set, the business operator must submit the complete set to the testing laboratory. One test report may be used to fulfill compliance requirements for Group 11 (Bedsheets) and Group 12 (Pillowcases and Bolster Cases).

Indonesia's classification systems KAN K-08.01 for certification scope, BPS industrial categories, and INSW HS Codes jointly define the coverage of textile products under conformity assessment and trade monitoring.

The SDoC framework applied in this project follows ISO/IEC 17050-1 and 17050-2, requiring suppliers to take full responsibility for declaring conformity and maintaining supporting technical documentation. However, consistent with APEC and ISO CASCO guidance, the credibility of SDoC depends on risk-based post-market surveillance, including random sampling, label verification, and laboratory testing. The integration of international standards, domestic regulations, and SDoC principles ensures a coherent foundation for assessing compliance performance in Indonesia and supports broader efforts toward regulatory cooperation and market confidence across APEC economies.

c. Methodology, Sampling Design and Data Validation

The field survey applied a structured methodology designed to ensure representativeness, traceability, and credible verification of towel and bed sheet products collected from the market. Sampling was conducted in late July to early August 2025 using a geographical stratification approach across five cities Jakarta, Surabaya, Yogyakarta, Padang, and Manado to reflect Indonesia diverse textile supply chain. Jakarta and Surabaya represent major import hubs, Yogyakarta captures MSME-based domestic production, while Padang and Manado provide perspectives from outer-island markets. Sampling followed a stratified random–purposive method aligned with Ministry of Trade Regulation No. 26/2021 jo. 21/2023 and PKTN Decree No. 36/2023, targeting approximately two brands per product category per city, with two to three units per brand. This ensured proportional representation of both domestic and imported products.

All sampling activities adhered to a standardized protocol to maintain data integrity. Each sample was documented using a Field Sampling Form capturing brand identity, material, labeling, barcode information, purchase details, and packaging condition. Products were sealed in new polyethylene bags and assigned unique alphanumeric codes. Visual inspections were conducted to verify K3L label completeness, registration numbers, and traceability through the Ministry of Trade's K3L registry (lamansitu.kemendag.go.id) and BSN's SNI certification database (bangbeni.bsn.go.id) where relevant.

Laboratory testing was performed exclusively by KAN-accredited ISO/IEC 17025 laboratories, ensuring international reliability and traceability. Three mandatory K3L parameters were analyzed:

- Formaldehyde (SNI ISO 14184-1:2015),

- Azo dyes releasing aromatic amines (SNI ISO 24362-1/3),
- Heavy metals (Cd, Pb, Cu, Ni) (SNI 7334:2009).

Laboratory reports included quantitative results alongside the Limit of Detection (LOD), Limit of Quantification (LOQ), and measurement uncertainty to ensure robust data interpretation.

Data validation followed a two-layer verification process. First, SDoC documentation was reviewed for completeness, focusing on K3L registration numbers, manufacturer/importer identity, and declared standards. Second, each K3L number was cross-checked against the official registry, and where SNI claims existed, certification details were verified through BSN's system. This procedure ensured that each SDoC declaration was supported by verifiable technical evidence, consistent with ISO/IEC 17050 principles

d. Field Survey Findings

The field survey collected 10 towel and 10 bed sheet samples from five cities (Jakarta, Surabaya, Yogyakarta, Padang, and Manado) to evaluate market compliance with Indonesia's K3L requirements. Product photos are presented in Figure 1 (bedsheets) and Figure 2 (towels). Approximately 70% of sampled products were domestically manufactured, while 30% were imported from overseas.

- **Sampling and Testing Results**

Laboratory testing assessed compliance with three K3L chemical safety parameters: formaldehyde, azo dyes, and heavy metals (Cd, Pb, Ni, Cu). All 10 bed sheet samples met the regulatory limits *(Table 5).*
For towels, 9 out of 10 samples complied with K3L requirements *(Table 6).* One towel sample from Padang exceeded the allowable formaldehyde limit (16.73 mg/kg vs. max 16 mg/kg), while still complying with azo dyes and heavy metals.

Table 5. Testing Result of Bed Sheet Product Samples Based on Product Origin

Product	Quantity	Testing Result Based on Ministry of Trade Regulation No.21/2023	
		Comply	Not Comply
Jakarta	2 pcs sample	2 pcs sample (100%)	-
Manado	4 pcs sample	4 pcs sample (100%)	-
Padang	2 pcs sample	2 pcs sample (100%)	-
Surabaya	2 pcs sample	2 pcs sample (100%)	-
Yogyakarta	Not Found	2 pcs sample (100%)	-

Table 6. Testing Result of Towels Product Samples Based on Product Origin

Product	Quantity	Testing Result Based on Ministry of Trade Regulation No.21/2023	
		Comply	Not Comply
Jakarta	2 pcs sample	2 pcs sample (100%)	-
Manado	3 pcs sample	3 pcs sample (100%)	-
Padang	2pcs sample	1 pc sample (50%)	1 pc sample (50%)
Surabaya	2 pcs sample	2 pcs sample (100%)	-
Yogyakarta	1pcs sample	1 pcs sample (100%)	-

Overall compliance is summarized in Table 7, showing 100% compliance for bed sheets and 90% for towels. Table 8 further shows full conformity for azo dyes and heavy metals, with a 5% non-compliance rate for formaldehyde.

Table 7. Summary Testing Result

Product	Quantity	Testing Result Based on Ministry of Trade Regulation No.21/2023	
		Comply	Not Comply
Towel	10 pcs sample	9 pcs sample (90%)	1 pcs sample (10%)
Bed Sheet	10 pcs sample	10 pcs sample (100%)	0 pcs sample (0%)

Table 8. Proportion of Compliance per Parameter for towel and bed sheets

Parameter	% Compliance	% Non-Compliance
Formaldehyde	95%	5%
Azo Dyes	100%	0%
Heavy Metals (Cd, Pb, Ni, Cu)	100%	0%

These results indicate that the Indonesian market generally demonstrates high adherence to K3L requirements. The single non-compliant towel sample suggests inadequate finishing or washing processes, highlighting the need for stronger QC practices among MSMEs. Detail research work result is provided in Annex I. It is important to note that after the completion of this research, the Government of Indonesia enacted Ministry of Trade Regulation No. 33 of 2025 as a revision to Ministry of Trade Regulation No. 21 of 2023. The updated regulation introduces clearer

product scope definitions, strengthened conformity assessment requirements, and more explicit obligations for business operators, particularly for textile and textile products similar to those examined as sample items in this study. As this regulatory update was issued after the research activities had concluded, the findings presented in this report reflect the policy conditions prior to the enactment of the new regulation.

- **Labelling and Traceability Findings**

All samples displayed the required K3L registration number, brand name, fibre composition, care instructions, and economy of origin. The K3L numbers were validated through the Ministry of Trade's online registry, confirming complete traceability.

Some products also displayed voluntary conformity markings, including SNI ISO 9001, SNI ISO 14001, OEKO-TEX®, and TEXPA, indicating awareness of additional quality and sustainability expectations, particularly among large-scale manufacturers.

The overall consistency of labelling practices reflects strong administrative compliance and supports the effectiveness of Indonesia's K3L registration framework for textile products.

e. Non-Conformity Analysis

Laboratory testing identified one case of non-conformity in a towel sample collected from Padang, where formaldehyde levels exceeded the maximum allowable limit set in the K3L regulation. The deviation was small (16.73 mg/kg vs. the 16 mg/kg limit) but technically significant, indicating incomplete removal of finishing chemicals and pointing to weaknesses in production controls.

A review of potential causes suggests that the issue likely originated from:

- Use of formaldehyde-based finishing agents, commonly applied to improve wrinkle resistance and durability. When poorly formulated or applied, these can leave residual formaldehyde bound to fibers.
- Inadequate washing or neutralization**,** where insufficient rinsing leaves unreacted formaldehyde on fabric surfaces often occurring in MSME production settings seeking to reduce water or processing time.
- Limited internal quality verification**,** as many manufacturers prioritize physical performance tests and do not routinely check chemical parameters unless required by specific buyers or regulations.
- Sub-optimal storage and packaging conditions**,** including sealed, humid packaging or exposure to high temperature, which may increase surface formaldehyde concentration due to off-gassing and reabsorption.

These findings reflect gaps in process control and quality management, particularly among small-scale producers that have not fully implemented ISO aligned systems such as ISO 9001 (process control) and ISO 14001 (chemical and environmental management). Strengthening supplier qualification, chemical input control, and routine chemical testing would substantially reduce recurrence risks.

Given that formaldehyde is classified by IARC as a Group 1 carcinogen, even mild non-compliance may pose irritation or sensitization risks for consumers, especially infants or individuals with sensitive skin underscoring the importance of continued monitoring and risk-based market surveillance.

Overall, the field survey results demonstrate a high level of market compliance with K3L requirements for towel and bed sheet products, with only one isolated case of non-conformity identified during laboratory testing. These findings indicate that the SDoC mechanism functions effectively for low- to medium-risk textile products, provided that manufacturers maintain adequate process control and regulators continue implementing risk-based monitoring. The evidence gathered through sampling, testing, labeling review, and traceability verification forms a solid basis for the integrated analysis and forward-looking strategies presented in the following section.

3) Integrated Findings and Forward Strategy for Strengthening SDoC Implementation

The combined evidence from Indonesia's field survey and the APEC-wide research work including background paper analysis, cross-economy questionnaire results, and workshop synthesis provides a coherent picture of the current strengths and remaining challenges in implementing SDoC for textile products. Across APEC economies, SDoC is widely viewed as a mechanism that can reduce administrative burdens and improve market access; however, evidence consistently shows that its effectiveness depends on the robustness of supporting systems such as surveillance, data integration, and stakeholder capability. Indonesia's monitoring and sampling results reinforce this conclusion: while administrative and labeling compliance is high, technical conformity gaps exemplified by the isolated formaldehyde non-compliance demonstrate the need for stronger controls, both domestically and at the regional level.

a. Regulatory and Policy Level Directions

Strengthening the regulatory architecture supporting SDoC is essential for ensuring that declarations are evidence-based, verifiable, and aligned with international practices. The integrated findings point to several policy priorities:

- Integration of data systems for traceability and verification
  Indonesia's K3L registration system should be interconnected with SDoC documentation, laboratory test records, and accreditation details to ensure that every declaration is supported by traceable evidence. An integrated platform would enable regulators to rapidly verify technical compliance and monitor trends in non-conformity.
- Operationalizing risk-based post-market surveillance
  Both Indonesia's field survey and APEC-wide responses indicate that sampling and market supervision must prioritize higher-risk categories such as textiles with chemical finishes, imported goods from suppliers with variable compliance histories, and products intended for sensitive users. Surveillance frequency, testing parameters, and inspection depth should follow a structured risk-profiling model.
- Alignment with regional and international SDoC practices
  Harmonizing Indonesia's SDoC framework with ISO/IEC 17050 and APEC GRP principles will support cross-border acceptance, reduce duplicative testing, and enable more transparent regulatory communication. This includes adopting comparable declaration formats, minimum evidence requirements, and consistent enforcement mechanisms.
- Updating chemical safety requirements in line with global developments
  Regulatory parameters for formaldehyde, azo dyes, and heavy metals must be periodically reviewed to align with evolving eco-labeling schemes and new toxicological data. This ensures that Indonesia's requirements remain internationally credible and protective of public health.

b. Industry and MSME Strengthening

The field survey highlighted variability in internal process control and chemical management among manufacturers, particularly SMEs. APEC-wide research similarly identifies capability gaps across several economies. To improve reliability at the industry level:

- Strengthening process-based quality management
  Encouraging manufacturers to adopt ISO 9001 and ISO 14001 will embed systematic process controls for chemical handling, finishing operations, waste treatment, and documentation management. Such systems help prevent defects at the source rather than relying solely on final product testing.

- Enhancing supplier verification and chemical management
  Manufacturers should be required to obtain and maintain updated MSDS, conformity statements, and quality assurances from raw material suppliers. A structured supplier qualification program—including routine audits—helps ensure that dyes, auxiliary chemicals, and finishing agents consistently meet safety standards.
- Improving access to chemical testing and QC capability
  SMEs often lack in-house laboratory capacity. The strategy therefore prioritizes collaboration with accredited laboratories, establishing simplified testing packages, and promoting routine chemical parameter checks as part of regular QC, not solely for regulatory compliance.
- Expanding capacity building and awareness efforts
  BSN and partner agencies can provide targeted training modules on chemical safety management, traceability practices, documentation for SDoC, and regulatory obligations. This also aligns with APEC's emphasis on capability strengthening among developing economies.

c. Domestic Institutional Strategy: BSN's Role

As the domestic steward of standardization and conformity assessment, BSN is positioned to integrate cross-ministerial and cross-industry efforts to reinforce SDoC implementation. Recommended institutional strategies include:

- Coordinated outreach with MoT and MoI
  Regular joint programs can harmonize messaging on SDoC obligations, align surveillance expectations, and build a more consistent compliance culture across producers, importers, and distributors.
- Developing a domestic digital traceability dashboard
  A single integrated interface that links SDoC records, K3L registration data, test reports, and laboratory accreditation information would enhance transparency, allow real-time verification, and support risk-based supervision.
- Facilitating international and regional peer learning
  BSN can serve as a hub for exchanging best practices with APEC partners particularly regarding risk profiling, digital conformity systems, and laboratory management thus elevating domestic regulatory capabilities in line with regional advancements.

d. APEC Level Directions and Cross-Economy Cooperation

Findings from the APEC survey and workshop discussions highlight strong support among member economies for coordinated improvements in SDoC implementation:

- Harmonizing standards and conformity principles
  Using ISO as the primary reference point, and aligning with other major systems (EN, AU, GB), would reduce technical discrepancies and improve cross-economy comparability. Adjusting domestic requirements to reflect international norms supports trade facilitation and reduces unnecessary burdens.
- Developing common APEC SDoC guidelines for textiles
  These guidelines could cover harmonized test methods, minimum documentation requirements, evidence structures, and recommended sampling protocols improving consistency in implementation across economies.
- Establishing an APEC SDoC Working Group for Textiles
  A dedicated platform would support the exchange of best practices, design pilot activities, and coordinate multi-economy training or capacity-building programmes.
- Strengthening capacity building and knowledge sharing

Developing economies would benefit from targeted technical assistance on market surveillance, testing capabilities, enforcement practices, and risk-based conformity assessment.

- Promoting mutual recognition and reducing duplication
  Expanding MRAs or equivalence arrangements, along with information-sharing on accredited lab networks and risk classifications, would reduce compliance costs and improve market access for SMEs.

e. Long-Term Outlook: Towards a Mature SDoC Ecosystem

The integrated insights strongly converge on the conclusion that SDoC can operate as a credible and efficient conformity mechanism only when supported by structured controls, transparent data, and coordinated surveillance. To strengthen long-term system maturity:

- Enhancing cross-sector collaboration across regulators, standardization bodies, laboratories, and industry stakeholders to maintain alignment of expectations and streamline compliance processes.
- Investing in digital transparency, especially platforms that combine regulatory data, evidence submissions, and post-market findings, enabling real-time decision-making and improved public trust.
- Expanding risk-based surveillance frameworks, focusing oversight resources on high-risk products, supply chains, or technical parameters while reducing burdens on consistently compliant operators.
- Increasing adoption of international standards to reduce technological divergence across APEC, build compatibility, and facilitate smoother cross-border acceptance of SDoC documentation and test reports.
- Encouraging continuous learning and innovation, including pilot initiatives on digital conformity tools, sustainability-linked standards, and advanced surveillance models.

Together, these measures will reinforce consumer protection, support fair market competition, and enhance regional trust in the SDoC framework ultimately advancing the goals of the APEC SCSC 203-2024T project and strengthening the textile conformity ecosystem across the Asia-Pacific region.

3.2. Result of Workshop

1) Best Practices of SDoc Policies from APEC Economies

Discussions throughout the workshop including formal presentations, panel exchanges, and the café table session revealed a set of emerging best practices for designing and implementing SDoC policies in the textile and textile products sector. These practices demonstrate that SDoC can function effectively when embedded in a strong regulatory, technical, and institutional ecosystem, rather than being treated as a stand-alone, paperwork-based declaration.

a. Integrating SDoC into Risk-Based Regulatory and Standards Frameworks

Participants observed that SDoC works best when it is anchored in a risk-based regulatory framework and supported by clear technical requirements. China's practice was frequently cited: domestic mandatory standards such as GB 18401 on general textile safety and GB 31701 on infants' and children's textiles provide graded requirements (Category A/B/C) for chemical content, color fastness, physical properties, and labelling, with test methods largely aligned to ISO standards. This categorization underpins differentiated regulatory treatment: higher-risk products (e.g. infant clothing, direct skin-contact garments) are subject to stricter controls, while lower-risk products can rely more heavily on flexible mechanisms such as SDoC, supported by appropriate testing and oversight.

Complementing this, ISO/TC 38 highlighted how international textile standards form the technical backbone of credible SDoC regimes. ISO standards provide harmonized test methods (e.g. tensile strength, color fastness, dimensional change) and safety parameters (e.g. formaldehyde, azo dyes), enabling laboratories in different economies to generate comparable data and thereby supporting mutual confidence in SDoC claims. Participants agreed that economies aiming to expand SDoC should first ensure that their domestic requirements are either derived from, or at least compatible with, established international standards.

During the café table discussion on risk-based market surveillance, economies converged on a similar structure:

- High-risk products (e.g. infants and children's wear, medical textiles, undergarments) should generally remain under mandatory third-party certification by accredited bodies, even where SDoC is used as a legal concept.
- Medium-risk products (e.g. home textiles in direct skin contact, adult apparel) may rely on SDoC backed by third-party laboratory test reports.
- Low-risk products (e.g. non-skin-contact home textiles, certain accessories and decorative items) can be covered by SDoC supported by in-house or external testing, with market surveillance triggered by complaints and random sampling.

These discussions reinforce the project's earlier finding that best practice SDoC policy is inherently risk-differentiated: rather than replacing all forms of certification, SDoC is used strategically, with higher-risk categories still subject to stronger ex-ante controls and lower-risk categories benefiting from lighter, trade-facilitating arrangements.

b. Embedding SDoC in Quality Infrastructure and Market Surveillance Systems

A second core best practice is the integration of SDoC into a mature quality infrastructure (QI) and robust market surveillance. China's experience again provided a concrete example. Its textile quality and safety supervision framework combines:

- a unified leadership and tiered responsibility structure (domestic–provincial–municipal–county)
- a legal base including the Product Quality Law, Standardization Law, and specific rules for fiber products,
- mandatory technical standards for key safety parameters, and
- five core supervision tools: product sampling inspection, risk monitoring, on-site inspections, special rectification campaigns, and defective product recall mechanisms.

Within this system, SDoC is operationalized through enterprise standards and self-declaration platforms, backed by guidelines for random inspection and compliance checks. Enterprises may declare conformity to voluntary or enterprise standards, but remain subject to targeted inspections and recall obligations if non-compliance is found. This model illustrates how SDoC can be integrated into a broader regulatory ecosystem that ensures accountability and rapid corrective action.

Participants also emphasized the importance of digital tools and transparency. China's approach to supervising online products, dedicating specialized departments for live-streamed and key online goods, directing more than half of sampling efforts toward e-commerce, and publishing annual surveillance programs, was seen as a practical template for dealing with the growing share of online textile trade. Similar aspirations emerged from Indonesia's industry association, which advocated for QR-code based traceability for both domestic and imported goods, harmonization of K3L (environment, health, and safety) requirements with international schemes such as Oeko-Tex, and recognition of foreign test results to reduce duplicative testing.

These examples align with the café table finding that SDoC must be paired with credible post-market controls. Participants recommended that:

- high-risk categories be subject to regular, planned surveillance (e.g. annual sampling),
- medium-risk categories undergo periodic or rotating surveillance, and
- Low-risk categories rely primarily on complaint-based and random checks, while still remaining within the scope of enforcement.

From a research perspective, these practices confirm that effective SDoC frameworks are inseparable from QI and enforcement capacity. Without accredited laboratories, competent inspectors, recall systems, and open information platforms, SDoC risks becoming a purely formal requirement that does not actually safeguard consumers or markets.

c. Industry-Led Practices Linking SDoC, Certification, and International Schemes

A third set of best practices comes from industry experiences shared during the workshop. ISO/TC 38 presented the case of Jiangsu Sunshine Group, which has implemented SDoC for textiles and garments since 2003 and leveraged it to expand both domestic and overseas markets. The company's role in supporting the ISO/TC 38 secretariat and domestic mirror committees illustrates how proactive industry participation in standardization can reinforce the credibility of SDoC claims.

From Indonesia, PT Paberik Tekstil Kasrie provided a detailed example of how a manufacturer combines multiple schemes SNI, Oeko-Tex Standard 100, ISO 9001, ISO 14001, and K3L requirements within a single quality system. The company's testing scope shows significant overlap among domestic and international requirements (formaldehyde, heavy metals, azo dyes, tensile properties, color fastness, pH, and other parameters), demonstrating that alignment with global standards can reduce redundancy and support both certification and SDoC. While acknowledging that SDoC offers lower cost and faster market access, the company concluded that third-party SNI certification remains crucial for long-term competitiveness and as a defense against low-quality imports, and advocated for mutual recognition agreements (MRAs) and simplified hazardous chemical documentation along the supply chain.

The Indonesian Textile Association (API) reinforced these messages by identifying key elements needed for "industry readiness" regulatory alignment with international standards, mutual recognition of test results, composite or grouped testing methods to lower costs, collaboration with accredited laboratories, and structured government–industry dialogue. In parallel, café table discussions on industry readiness and SDoC highlighted practical policy tools that economies can use to encourage good practice, including:

- transitional periods before full SDoC implementation,
- targeted training and digital platforms,
- tax reductions or subsidies for SMEs that implement SDoC properly,
- public recognition and awards for compliant enterprises, and
- selective use of third-party certification for high-risk pilot products alongside SDoC.

d. Overall Reflections on SDoC Best Practices in APEC

The workshop discussions across all days indicate that best practices in SDoC policies among APEC economies share several common features:

- A risk-based approach, where SDoC is applied more fully to low- and some medium-risk products, while high-risk categories remain under stricter, often certified, control.
- Strong alignment with international standards, ensuring that technical requirements and test methods are globally comparable.

- Integration into a coherent quality infrastructure and market surveillance system, including accredited laboratories, recall mechanisms, risk monitoring, and digital transparency tools.
- Active industry participation, combining SDoC with certification, management systems, and supply-chain traceability to maintain market confidence and access.

These findings deepen and operationalize the project's earlier analytical work on SDoC. They demonstrate that a credible SDoC regime for textiles in APEC is not merely a legal declaration format, but much broader system that includes robust standards, competent conformity assessment, effective post-market controls, and meaningful incentives for industry. As economies move forward, these best practices provide concrete reference points for designing SDoC policies that facilitate trade while safeguarding health, safety, and consumer trust.

2) Workshop - Group Discussion Report

The group discussions were conducted using a facilitated table-based FGD format during the workshop, where participants were divided into thematic discussion tables. Each table focused on a specific topic related to SDoC implementation in the textile sector, allowing participants to engage in in-depth exchanges based on their regulatory, technical, and industry perspectives.

The discussions were organized into four thematic tables. Table A focused on risk-based market surveillance approaches; Table B examined recognition and mutual recognition arrangements (MRAs); Table C addressed industry readiness and cost-effective compliance; and Table D explored practical considerations for initiating or expanding SDoC implementation. The summaries below reflect the key insights and consensus points emerging from each table discussion.

a. Table A Discussion Report: Risk-Based Market Surveillance

During the group discussion on Risk-Based Market Surveillance, participants explored how APEC economies can prioritize regulatory oversight for textile and textile products based on varying levels of health, safety, and environmental risks. The conversation drew from diverse economy experiences and recognized that an effective surveillance mechanism should be proportionate to risk, supported by appropriate conformity assessment tools, and feasible for implementation by regulators with different capacities. The resulting insights offer a practical pathway for economies seeking to strengthen their SDoC frameworks while ensuring continued consumer protection.

a.1. Identifying High, Medium, and Low-Risk of Textile and Textile Products

Participants agreed that risk categorization must begin with the product's degree of exposure to vulnerable consumers and the likelihood of containing hazardous substances. High-risk categories include infants' and children's clothing, medical textiles such as PPE and facemasks, undergarments, and geotextiles. These products directly contact sensitive skin or play a structural safety role, making them more prone to chemical or functional hazards if not properly controlled. Medium-risk items consist of home textiles like linens, bed sheets, pillowcases, and towels, in addition to everyday garments, uniforms, jeans, and hand-woven fabrics. These products have moderate exposure risks and are widely circulated across the region. Low-risk items cover fibers and yarns, fashion accessories, carpets, mosquito nets, tote bags, decorative fabrics, and most upcycled/recycled textile products, where consumer exposure and chemical intensity are typically lower.

a.2. Matching Risk Levels with Suitable Conformity Assessment Methods

The discussion emphasized aligning conformity assessment with product risk to avoid unnecessary burdens while maintaining safety assurance. For high-risk products, participants generally supported mandatory third-party certification performed by accredited conformity

assessment bodies, noting that independent verification is essential where public health or structural integrity is involved. For medium-risk products, the group recommended a hybrid system, combining SDoC with periodic laboratory testing or third-party verification when needed. This approach maintains flexibility while ensuring that chemical parameters, such as formaldehyde, azo dyes, or heavy metals are regularly checked. For low-risk products, SDoC alone was deemed sufficient, supported by internal or third-party test reports as evidence. This tiered approach allows regulators to allocate resources efficiently while minimizing compliance costs for industry, particularly MSMEs.

a.3. The Role of Government in Market Surveillance

Participants strongly agreed that market surveillance is essential for all risk levels, although the intensity and frequency should differ. For high-risk categories, annual surveillance combined with border inspections for imported goods was considered crucial to ensure continued compliance. Medium-risk products may be monitored once a year or in multi-year cycles depending on compliance history and risk characteristics. For low-risk products, surveillance can be random or complaint-based, ensuring proportional oversight without imposing excessive regulatory burdens. The group emphasized that government surveillance must be systematic, transparent, and supported by risk-prioritization tools to target products with higher non-compliance potential.

a.4. Recommended Surveillance Models and Mechanisms

The discussion highlighted several practical mechanisms that economies can adopt. These include risk-based random sampling, integration of customs data for post-border control, and the use of digital platforms to record compliance information and test results. Participants also noted the value of public involvement—such as enabling consumers to report non-compliant products—and the need for clear inspection guidelines for inspectors. In addition, economies with limited capacity may adopt phased surveillance programs, beginning with desktop verification of SDoC documents before moving toward laboratory testing as resources expand.

Overall, the discussion reaffirmed that risk-based market surveillance is a critical pillar of an effective SDoC system. By categorizing textile products according to potential hazards, applying proportionate conformity assessment methods, and implementing surveillance mechanisms that reflect regulatory capacity, economies can safeguard consumers while supporting trade facilitation. The insights from Table A provide a practical reference for strengthening both domestic and regional frameworks for textile safety under APEC's broader commitment to good regulatory practices.

b. Table B Discussion Report: Recognition & Mutual Recognition Arrangements (MRA)

b.1. Technical and Legal Conditions Required for Recognition and MRA

Participants highlighted that the successful establishment of recognition or mutual recognition arrangements requires a set of robust technical and legal foundations. Key technical prerequisites include the availability of competent quality infrastructure, accredited laboratories, and qualified personnel, harmonized test methods, and aligned product standards. Clear regulatory documentation such as technical regulations, labeling rules, and standardized SDoC formats is essential to ensure that all economies understand the baseline conditions before entering into any form of recognition arrangement.

In addition, participants emphasized the importance of traceability systems, calibration consistency, transparent procedures, and a secure platform for data exchange. These elements enable economies to evaluate the reliability of conformity assessment results and reduce discrepancies in implementation. Government to government coordination, supported by formal agreements and policy commitments, was considered indispensable for ensuring that MRAs remain operational, enforceable, and credible.

These insights reinforce the earlier Project Report findings that the effectiveness of SDoC frameworks is directly linked to the strength of the technical and legal ecosystem supporting them. Without harmonized requirements, clarity in regulatory provisions, and reliable conformity assessment systems, cross-economy acceptance of SDoC or test reports cannot be achieved

b.2. Building and Maintaining Trust Between Economies

Participants agreed that trust is the central pillar of any recognition or MRA initiative. Trust can be built and maintained through strong accreditation practices, the use of competent human resources, and reliance on internationally accepted test methods. Regular peer reviews, cross-economy verification, and periodic evaluation of conformity assessment bodies were identified as key mechanisms to uphold system credibility and minimize risks associated with low quality declarations.

Trust is also strengthened through transparency, consistent communication, and structured dialogues among regulators, industry, and testing communities. Participants underlined the importance of consumer education, awareness-raising activities, and the integration of customer feedback as early indicators of market issues. Market surveillance, rapid alert mechanisms, and enforcement actions were considered essential for ensuring that SDoC-based systems remain reliable and do not compromise consumer safety or product quality.

These points align closely with the project's broader reflection that SDoC, to be credible, requires continuous oversight and collaboration. A hybrid approach combining industry self-declaration with evidence-based verification and effective post-market controls emerged as a practical model for building long-term trust among APEC economies.

b.3. Adaptation of Existing Models for the Textile Sector

During the discussion, participants reviewed several existing recognition and MRA frameworks and assessed their applicability to the textile sector. Many existing models whether bilateral, regional, or multilateral offer useful components such as standardized testing protocols, accredited laboratory networks, harmonized regulatory practices, and mechanisms for accepting test reports or certificates across borders. These elements were considered potentially adaptable for textiles, especially as economies seek to streamline conformity assessment while maintaining product safety.

However, participants acknowledged that direct adoption of existing models would not be feasible without adjustments. The textile sector involves diverse parameters, including chemical requirements and performance attributes, which may differ significantly across economies. Differences in regulatory maturity, laboratory capacity, and industry readiness also present challenges. Therefore, a phased approach was recommended: beginning with the acceptance of harmonized test methods and standards, progressing toward mutual acceptance of test reports, and ultimately considering more formal MRAs as capacities and trust are strengthened.

This phased approach is consistent with the project's recommendations, which highlight the need for incremental harmonization, enhanced laboratory capability, and greater alignment of regulatory practices. The discussion validated the project's conclusion that any move toward recognition or MRA in the textile sector must be deliberate, collaborative, and grounded in technical readiness.

The Table B discussion demonstrated that recognition and MRA are not merely technical instruments but comprehensive frameworks that integrate regulatory alignment, laboratory competence, accreditation robustness, transparent communication, consumer engagement, and market surveillance. These insights enrich the overall Project Report by providing practical, bottom-up perspectives from workshop participants on how SDoC implementation can be strengthened through coherent technical requirements, deliberate trust-building, and progressive steps toward harmonization.

Overall, the discussion confirms the project's key reflection: building a credible and mutually recognized SDoC system for textiles in APEC requires a combination of regulatory clarity, technical capacity, continuous cooperation, and shared commitment to quality and consumer protection. This reinforces the pathway outlined in the project deliverables and offers concrete considerations for future regional initiatives.

c. Table C Discussion Report: Industry Readiness and Cost-Effective Compliance

c.1. Industry Readiness to Adopt SDoC

Participants from various APEC economies expressed a generally positive view regarding the readiness of industries particularly in the textile and apparel sector to adopt the Self-Declaration of Conformity (SDoC) framework. The discussion reflected that industries increasingly recognize SDoC as a practical mechanism for facilitating trade, reducing certification burdens, and accelerating market entry.

However, readiness is not uniform across all industry segments. Larger manufacturers, especially those already operating under international management systems (e.g., ISO 9001, Oeko-Tex), were perceived as more prepared due to established internal quality controls and access to accredited laboratories. In contrast, SMEs require transitional measures to adapt to the technical, administrative, and digital requirements of SDoC.

Participants emphasized that industry readiness should be assessed through gap evaluation, including the availability of in-house testing capabilities, digital literacy levels, and alignment between existing practices and regulatory requirements. Several economies suggested a two-year transition period before full-scale SDoC implementation, allowing industries to gradually upgrade their systems, personnel competencies, and supporting infrastructure.

These insights validate the broader project findings: SDoC readiness must be measured not only in terms of intention but also in terms of system capability, and adequate time is required to bring industries especially SMEs into a state of compliance.

c.2. Required Support: Training, Digital Platforms, and Institutional Initiatives

Participants also discussed the types of support required to ensure that industries are adequately prepared to implement SDoC in an effective and cost-efficient manner. Capacity-building emerged as the most fundamental need, particularly in the form of structured training programs that help manufacturers understand SDoC procedures, prepare and maintain proper documentation, interpret technical requirements and test parameters, navigate digital registration systems such as OSS, and develop basic in-house quality assurance or testing capabilities. Strengthening personnel competence was viewed as essential, especially for industries that rely on internal verification processes.

Beyond human capacity, participants stressed the importance of reliable digital platforms and data systems to facilitate SDoC implementation. They highlighted the need for government-managed portals that allow easy submission and verification of SDoC documents, centralized databases for product traceability and compliance history, and real-time reporting systems to support oversight and transparency. Well-developed digital infrastructure was considered crucial not only for improving regulatory efficiency but also for reducing administrative burdens and long-term compliance costs.

Participants further emphasized that industry readiness depends heavily on close coordination between regulators and manufacturers. They pointed to the value of technical guidance documents, standardized SDoC templates, regular consultation forums, and collaborative government–industry programs aimed at improving testing capacity. These forms of support reinforce the understanding that SDoC functions most effectively when institutions provide clear, consistent guidance and maintain active communication channels with the industries they regulate

c.3. SME Support Mechanisms to Prevent Excessive Compliance Costs

Participants also acknowledged that SMEs encounter significantly greater barriers in adopting SDoC, largely due to limited financial capacity, restricted access to accredited testing facilities, and varying degrees of digital literacy. To reduce these structural disadvantages, the discussion highlighted the need for financial support mechanisms, such as subsidized or fully sponsored laboratory testing, tax incentives for compliant SMEs, and grant schemes aimed at improving in-house testing capabilities or digital infrastructure. In addition to financial measures, participants emphasized the value of simplified procedures tailored to SMEs, including clearer procedural steps, streamlined documentation templates, and more flexible compliance timelines that accommodate resource constraints. Equally important is the provision of sustained awareness and guidance programs to help SMEs understand their obligations, the benefits of SDoC, and the practical steps needed to comply, supported by targeted outreach and dedicated helpdesk services. The group concluded that without such targeted interventions, SDoC implementation may unintentionally widen compliance gaps and place smaller enterprises at a disadvantage compared to larger, better-resourced manufacturers.

c.4. Building Consumer Trust Through Transparency and Traceability

Participants agreed that the credibility of SDoC ultimately rests on consumer trust in the declarations made by manufacturers, and that this trust must be actively built through transparent and accessible information mechanisms. One way to reinforce confidence is through improved labeling and digital traceability, such as QR-coded labels that allow consumers to verify a product's compliance status, access real-time conformity information through online portals, and review testing records or audit trails linked to the product. Participants also underscored the value of recognition and reward programs, noting that publicly acknowledging compliant enterprises can both incentivize good practice and provide visible quality signals to consumers. In parallel, transparent public disclosure—covering non-compliant products, test failures, and enforcement actions—was viewed as essential for enabling informed consumer choices and reinforcing accountability across the supply chain. Together, these measures contribute to a broader trust ecosystem in which SDoC is supported not only by manufacturers' declarations but also by technology-enabled transparency and responsive oversight.

c.5. Public Communication Strategies and Civil Society Engagement

Participants emphasized that clear, consistent, and accessible communication plays a central role in increasing public acceptance of SDoC and ensuring that the mechanism is understood across all segments of society. They noted that broad public-awareness efforts, such as nationwide campaigns explaining the purpose and function of SDoC, consumer education on identifying compliant textile products, and collaboration with media, educational institutions, and consumer associations, are essential to building a well-informed consumer base. In parallel, civil society organizations were seen as valuable compliance partners, as they can provide feedback on product quality and safety, contribute insights to regulatory improvements, and serve as early-warning channels when market issues arise. Participants also highlighted the importance of continuous multi-stakeholder dialogue among regulators, industry, consumers, and civil society to ensure that SDoC policies remain flexible and responsive to evolving market conditions. These communication strategies collectively reflect a shared understanding that consumer and civil-society engagement is fundamental to maintaining long-term trust in the SDoC system.

The group's discussion further underscored that industry readiness, cost-effective compliance pathways, and consumer trust are mutually reinforcing pillars of a successful SDoC framework. Although industries generally demonstrated willingness to adopt SDoC, participants noted that smooth implementation requires transitional periods accompanied by gap assessments, strong institutional and digital support systems, targeted assistance for SMEs, robust traceability

mechanisms, and active public engagement to sustain accountability and transparency across the market.

These insights reinforce the project's broader conclusion that SDoC is not merely a declaration mechanism but a coordinated system that relies on regulatory clarity, industry capacity, and continuous stakeholder cooperation. The Table C findings serve as practical, bottom-up recommendations for economies seeking to operationalize SDoC frameworks that are both credible and trade-facilitating.

d. Table D Discussion Report: SDoC, Start Now?

The discussion under Table D explored the practical readiness of economies to initiate or expand the Self-Declaration of Conformity (SDoC) mechanism for textile products, focusing on the essential conditions required to ensure that such a system operates effectively and responsibly. Participants examined three guiding questions: the key readiness factors that must be considered before implementing SDoC, the types of textile products best suited as initial pilot cases, and the appropriate conformity assessment approaches that should accompany SDoC to maintain credibility and safety. The conversation reflected a mix of regulatory, industry, and consumer perspectives, acknowledging that while SDoC offers clear advantages in terms of flexibility and reduced compliance burden, its success ultimately depends on the maturity of the ecosystem supporting it including surveillance capacity, laboratory infrastructure, and stakeholder awareness. The summary below synthesizes the group's collective insights into four overarching themes.

d.1. Factors to Consider Before Starting SDoC

Participants agreed that several foundational readiness factors must be in place before an economy initiates or expands the SDoC mechanism for textile products. Industry readiness emerged as a crucial prerequisite, particularly the need for manufacturers to have basic process controls, internal documentation, and some level of in-house or outsourced testing capacity to ensure their declarations can be trusted. Consumer readiness was also highlighted, as SDoC relies on public trust and the ability of consumers to interpret labels and understand the meaning of declarations or compliance marks. Market readiness, including the clarity of regulatory roles and enforcement procedures, was another central consideration. Additionally, participants emphasized that regulators must have adequate capacity for market surveillance and access to competent laboratories, ensuring that authorities can verify SDoC claims and address non-compliance effectively. These elements collectively determine whether an economy has sufficient maturity to implement SDoC responsibly and sustainably.

d.2. Textile Products Suitable as Pilot or Role-Model Cases

In determining which textile products should be selected as pilots for SDoC implementation, the group agreed that low- to medium-risk items are the most appropriate starting point. Home textiles—particularly towels and bed sheets—were viewed as strong candidates because their production processes are relatively standardized, chemical safety requirements are well-defined, and many manufacturers already meet the regulatory parameters required for these products. Adult garments were also seen as feasible pilot products, as they typically pose fewer direct safety risks compared to more sensitive items. While children's clothing was recognized as an important area, the group noted that such products carry higher health-risk implications and may therefore require additional safeguards before being included under SDoC. Overall, the selection of pilot products should reflect both regulatory feasibility and the existing compliance culture within the domestic textile sector, ensuring that early implementation demonstrates clear success and builds confidence among stakeholders.

d.3. Appropriate Types of Conformity Assessment to Accompany SDoC

The discussion emphasized that SDoC should not stand alone; instead, it needs to be accompanied by an appropriate conformity assessment approach based on product risk level. For

low-risk textile products, a pure SDoC system may be adequate as long as post-market surveillance is active and authorities can verify claims through periodic inspections. For medium-risk products, participants indicated that a hybrid model is more suitable, combining SDoC with accredited laboratory testing for key safety parameters such as formaldehyde, azo dyes, and heavy metals. This approach maintains flexibility for businesses while ensuring that essential health protections remain intact. For high-risk categories, particularly children's textiles or products where chemical exposure poses a greater hazard, third-party certification or mandatory testing may still be required. Throughout the discussion, there was strong consensus that post-market surveillance remains the backbone of an effective SDoC system, supported by clear inspection guidelines and digital traceability tools that enable regulators to track declarations and test results efficiently.

d.4. Additional Insights on Institutional and Market Support for SDoC

Participants noted that the successful introduction of SDoC depends not only on product selection and testing strategies but also on the presence of broader institutional support mechanisms. Regulatory authorities must ensure that roles and responsibilities for verifying declarations are clearly defined, including who conducts monitoring, how often sampling is performed, and what corrective actions are applied when non-compliance is found. Effective SDoC also requires robust laboratory infrastructure and investment in capacity building so that manufacturers, especially SMEs, understand their obligations and have access to reliable testing services. The group also discussed the need for international alignment, noting that harmonizing SDoC practices with ISO/IEC 17050 and learning from existing models within APEC could help economies achieve greater regulatory consistency and mutual trust. These institutional elements are essential to ensuring that SDoC does not merely reduce administrative burdens but also strengthens long-term compliance and market integrity.

Overall, the Table D discussion reaffirmed that the successful roll-out of SDoC in the textile sector hinges on a balanced combination of regulatory readiness, industry capability, and credible conformity assurance. While economies recognize the efficiency and trade-facilitation benefits of SDoC, they also emphasized that its implementation must be accompanied by proportionate safeguards particularly in the form of risk-based surveillance and transparent technical evidence. The insights generated through this group dialogue contribute to a clearer understanding of how economies can operationalize SDoC in a pragmatic and phased manner, beginning with well-defined product categories and supported by both domestic and regional cooperation. These reflections will serve as useful inputs for shaping the project's follow-up activities, as well as APEC's continuing work toward strengthening harmonized, trust-based approaches to conformity assessment across the region.

IV. RECOMMENDATIONS AND CONCLUSION

A. Recommendations

Building on the research work and workshop outputs, several strategic recommendations are proposed to strengthen the credibility, coherence, and effectiveness of SDoC implementation for textile and textile products across APEC economies. First, economies should reinforce their post-market monitoring frameworks by investing in institutional capacity for risk-based sampling, inspection, and laboratory testing, supported by clear enforcement mandates to ensure that SDoC declarations are backed by credible oversight. Strong post-market surveillance is essential since SDoC relies heavily on regulatory trust and the accountability of manufacturers, importers, and distributors.

Second, regional cooperation and information-sharing must be enhanced to reduce duplication, foster transparency, and support collective risk management. APEC could explore the establishment of shared databases for SDoC-declared products, non-compliance alerts, or coordinated surveillance outcomes. Complementing this, harmonization of core technical

requirements, including chemical safety parameters, labelling essentials, and product risk categories would support interoperability among economies and streamline compliance for industry, without requiring full regulatory uniformity.

Third, targeted support for SMEs is essential to ensure inclusive participation in SDoC systems. Economies are encouraged to provide sector specific guidance materials, online training, simplified documentation templates, and cost-effective testing support to help SMEs prepare valid declarations and respond to surveillance activities. Parallel to this, economies should leverage digital tools such as product registration platforms, traceability systems, and searchable public databases to enhance transparency, strengthen consumer trust, and enable data driven regulatory interventions.

Finally, APEC may explore long-term pathways toward mutual recognition, such as accepting test reports, exchanging surveillance information, or piloting equivalence assessments, to build confidence and progressively reduce technical barriers to trade. While full mutual recognition is complex, continual collaboration can lead to the establishment of integrated regional market oversight.

B. Conclusion

The development of a credible and effective SDoC mechanism for textile and textile products is fundamental to safeguarding consumer protection while facilitating trade across the APEC region. This project demonstrates that SDoC can reduce compliance costs, accelerate market access, and streamline regulatory processes, but only when supported by strong quality infrastructure, harmonized technical expectations, and robust post-market surveillance. The insights from international norms, regional practices, and Indonesia's experience illustrate that SDoC is not merely an administrative declaration, but a comprehensive conformity assurance ecosystem requiring cooperation among regulators, industry, laboratories, and accreditation bodies.

By implementing the recommendations outlined above, APEC economies will be better positioned to enhance regulatory transparency, build cross-border trust, and support safer and more competitive textile markets. Continued dialogue, technical exchange, and multi-stakeholder engagement remain essential to ensure that SDoC systems evolve in line with technological developments, digital transformation, and the growing complexity of global textile supply chains. Collectively, these efforts will contribute to a more coherent, efficient, and harmonized approach to conformity assurance across the APEC region.

ANNEX

Annex I. Research Report APEC Project SCSC203-2024T-Field Survey for Monitoring and Sampling of Towel and Bed Sheet Products in Selected Cities in Indonesia

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