



Regional Challenges on Prepackaged Goods for Strengthening the Economy, Industry, and Consumer Protection

How APLMF member economies developed regulations and market surveillance for prepackaged product inspections to support a fair and equitable marketplace

Asia-Pacific Legal Metrology Forum (APLMF)



The Challenge

As a result of global economic and lifestyle changes after the 2020-2021 pandemic, more goods are now traded and consumed in prepackaged form. Because such products are packed and measured in factories out of consumers' view, the manufacturer is responsible for ensuring the actual net quantities. In many economies across the Asia-Pacific region, the national legal metrology authorities (LMAs), and local legal metrology authorities (LLMAs) are responsible for controlling prepackaged goods and supervising manufacturers and packers.

In addition, an international certification system for prepackaged goods, aimed at mutual recognition among manufacturers (packers) worldwide, has not been established. In 2017, the International Organization of Legal Metrology (OIML) published a guide for the certification system, OIML G 21.¹ However, because this guide lacks enforcement power, the international system has not been established. Therefore, a manufacturer must obtain an independent certification from the target country or region to export, which requires duplicate testing or certification. It could be a significant obstacle to the World Trade Organization (WTO) Technical Barriers to Trade (TBT) agreement.

Due to the large number of prepackaged products on the market, it is impossible for LMAs and LLMAs to inspect all of them. It becomes a significant workload for the inspectors, even if they use random sampling. Another challenge is a lack of common understanding among the stakeholders, i.e., manufacturers (packers), traders, sellers, and consumers, regarding the importance of correct measurement of the net quantities. Marketplace equity for both businesses and consumers may be compromised without a national or regional inspection system for prepackaged goods.

Many non-compliant products result from manufacturers and packers who do not fully understand labeling and quantity-declaration requirements. However, some manufacturers may intentionally set the actual net quantities below (or close to) the negative tolerance. A current problem exists in the commercial marketplace in which the actual net quantities in some prepackaged products have been determined to be below the negative tolerance, albeit accidentally, with respect to the nominal quantity declared on the label. Actual net quantities of products delivered to end customers cannot be guaranteed. It leads to a significant failure in consumer protection for the national responsible authorities, LMAs, and LLMAs.

¹ OIML G 21 - Guidance for defining the requirements for a certification system for prepackages. Accessed from: https://www.oiml.org/en/files/pdf_g/g021-e17.pdf

It is difficult to measure the actual net quantities of all prepackaged products on the market. A fully accurate measurement of the quantity requires removing the package, which, of course, compromises or damages the product. In reality, inspectors can only examine a statistical subsample of the overall product available. This is the only feasible approach to achieving a high level of confidence in the inspection process while preserving sufficient product for the business.

The Solution

The OIML, RLMOs (Regional Legal Metrology Organizations), LMAs, and LLMAAs worked together to develop a randomized-sampling inspection method based on an average-quantity system and statistical methods. An example of this approach to market surveillance is provided in recent OIML Bulletins^{2,3} and in **Figure 1**.⁴

This was implemented across several APLMF member economies (e.g., Indonesia). This method is based on the OIML International Recommendation R 87:2016 *Quantity of product in prepackages*, which is the only internationally accepted standard procedure for prepackage product inspection. Individual countries' working standards (mass, volume, and liquid density) were used to measure the actual net contents, which were metrologically traceable to the SI.

A Quantifiable Impact

A significant reduction in out-of-compliance prepackaged products was observed across many product types. This has increased production efficiency, reduced unnecessary trade costs, and boosted consumer confidence in product quality and manufacturers.

Given that many manufacturers and packers may not fully understand labeling and net content declaration requirements, having access to guidance that outlines legal obligations, permissible tolerances, and proper measurement practices will help them address non-compliances arising from ignorance or misinterpretation. Businesses may also be guided to incorporate statistical process controls and regular in-line checks into their production workflows, allowing deviations to be caught and corrected before products reach the market. The combined effect of better-informed businesses, supported by stronger internal controls, may have resulted in fewer products falling outside acceptable limits and more consistent, trustworthy products delivered to consumers.

The policy brief,⁵ which serves as the basis for this case study, has also been referred to by decision-makers in the APLMF member economies. Some economies have begun reviewing

² Herosobroto, OIML Bulletin Vol. LXII No. 2, April 2021, pp. 43-49: Key reforms in the Indonesian Legal Metrology System

³ Rifan Ardianto, Bonita Oktriana, and Tsuyoshi Matsumoto, OIML Bulletin Vol. LXIV, No. 2, April 2023, pp. 40-46: Control on prepackaged goods within the Asia-Pacific region and challenges faced by the local authorities

⁴ Rifan Ardianto, Bonita Oktriana, and Tsuyoshi Matsumoto, OIML Bulletin Vol. LXIV, No. 2, April 2023, pp. 40-46: Control on prepackaged goods within the Asia-Pacific region and challenges faced by the local authorities

⁵ Dr Rifan Ardianto and Dr Tsuyoshi Matsumoto, Pre-Packaged Goods: Regulations, Rationale and Potential Economic Benefits (2024). Accessed from <https://metrologyasiapacific.com/assets/Uploads/Pre-Packaged-Goods-Regulations-Rationale-and-Potential-Economic-Benefits-v4.pdf>

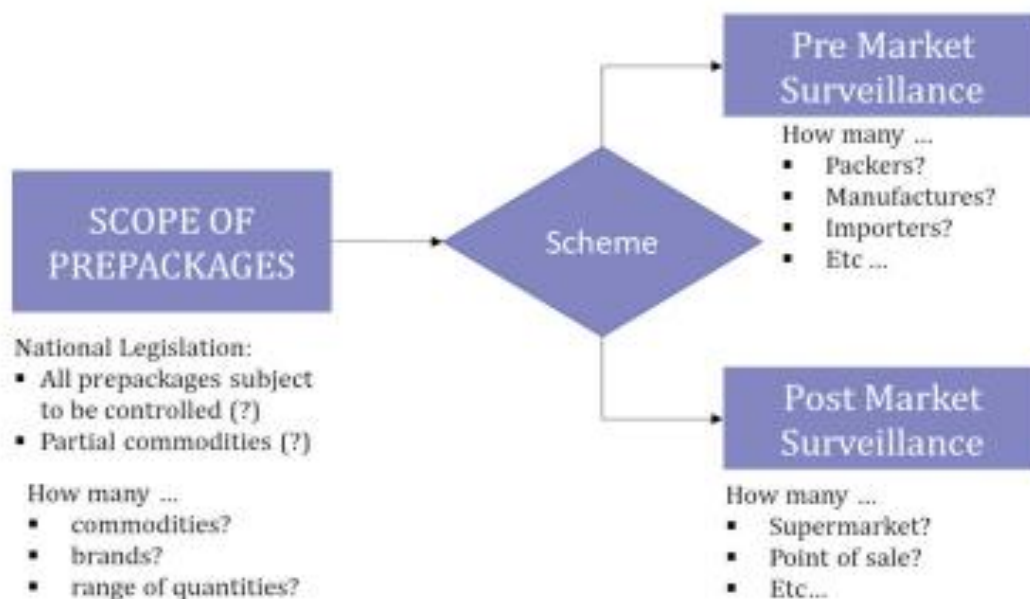


Figure 1. Example of prepackaged goods control with market surveillance.

or updating their national systems or legislation for prepackages. In addition, some have implemented educational or advertising programs to inform stakeholders, including consumers. For example, Indonesia is introducing the proposal from this case study.^{6,7}

The framework, as illustrated by this case study, should continue as a permanent national infrastructure for many economies, which is anticipated to lead to sustainable economic development. Coordinated inspection programs, underpinned by harmonized measurement standards and a certification system for prepackages, can open new international or regional trade opportunities by providing importing economies with greater assurance that products meet declared quantity requirements. When trading partners share a common inspection methodology (e.g., OIML R 87), it reduces the need for duplicate testing and inspections, lowers Technical Barriers to Trade (TBT), and streamlines market access.

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⁶ Herosobroto, OIML Bulletin Vol. LXII No. 2, April 2021, pp. 43-49: Key reforms in the Indonesian Legal Metrology System

⁷ Rifan Ardianto, Bonita Oktriana, and Tsuyoshi Matsumoto, OIML Bulletin Vol. LXIV, No. 2, April 2023, pp. 40-46: Control on prepackaged goods within the Asia-Pacific region and challenges faced by the local authorities

⁸ <https://metrologyasiapacific.com/assets/Uploads/Pre-Packaged-Goods-Regulations-Rationale-and-Potential-Economic-Benefits-v4.pdf>