The Global Language of Business

GS1 Australia Submission – Productivity Commission Interim Report: Australia's Circular Economy – Unlocking Opportunities (March 2025)

GS1 Australia welcomes the opportunity to contribute to the Productivity Commission's (PC) interim report, Australia's Circular Economy: Unlocking the Opportunities (March 2025).

We commend the PC's recognition of the importance of standardised product information, traceability, and labelling in driving a more circular economy. This submission outlines the role of GS1 Standards in addressing key challenges identified in the report and provides recommendations to support harmonised national approaches to product data, traceability, and stewardship.

Our submission includes 2 parts. Part A responds to selected questions and Part B provides further background and details on GS1 Australia and the GS1 Standards.

Our submission is focused on areas where GS1 standards are already playing a key role in supporting circular economy goals—particularly labelling reform directions, which are central to improving product transparency, enabling sustainable consumer choices, and reducing regulatory complexity. Standardisation in labelling and product data is critical for industry to maintain operational efficiency, streamline compliance, and ensure market interoperability.

Key points in our submission include:

- ***Labelling reform directions (Reform Directions 6.1, 9.1, 8.2):*** *We* strongly support labelling schemes that provide trusted, structured data on repairability, recyclability, and sustainability claims. We encourage the PC to consider digital labelling solutions based on open global standards are scalable and interoperable.
- ***Traceability for recycled content (Reform Directions 4.1):*** We highlight the importance of traceability systems to build confidence in recycled inputs and support quality assurance. GS1 is actively supporting the National Framework for Recycled Content Traceability and recommends continued collaboration to build sector capability.
- ***Regulatory harmonisation (Reform Directions 10.1):*** A lack of consistency across states and territories—such as in container deposit schemes, packaging bans, and reporting requirements—creates substantial challenges. A national approach, aligned with global standards, will reduce complexity and support business competitiveness.
- ***Procurement and product data infrastructure (Reform Directions 4.2):*** *We* encourage consideration of national registries, such as the National Product Catalogue (NPC), as soft infrastructure to enable trusted and consistent product information in procurement processes. These systems already support sustainable purchasing in sectors like healthcare and can be extended to circularity use cases

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Supply Chain Standards and National Productivity

In support of the points above and the recommendations that follows, there are two key documents that the PC may find useful. .

1. A draft position paper on the topic of ***digital labelling for government and regulators***. The paper addresses current and emerging issues for industry and government as global manufacturers and retailers transition from a 50-year-old technology (linear of 1D) to next-generation barcodes. This is provided in Appendix A.
2. An ***independent economic analysis*** conducted by The Centre for International Economics (CIE) ***evaluating the current and future impacts of supply chain data standards*** (GS1 standards) on the Australian economy. The study highlights the significant contributions of supply chain data standards to various sectors, including retail, healthcare, food production, transport, and construction. This analysis is currently being finalised. Annex C of Appendix A provides a summary. GS1 Australia would be pleased to provide the PC with a copy of the final analysis to support the final report.

Next Steps & Industry Collaboration

GS1 Australia is committed to supporting the PC, industry, and policymakers in developing and implementing practical, scalable solutions for circular economy challenges.

We welcome the opportunity to:

- Participate in further consultations on traceability frameworks and product data standards.
- Collaborate with government agencies to pilot digital labeling and data exchange.
- Provide industry insights on best practices for circular economy traceability and regulatory harmonisation.

We appreciate the opportunity to contribute to this important inquiry and look forward to working collaboratively with the Commission to drive practical, standards-based solutions for circularity.

If you have further queries, please do not hesitate to contact GS1 Australia's Sustainability and Circularity Manager, Dharshi Hasthanayake or Peter Carter, General Manager Public Policy and Government Engagement

Thank you for considering our feedback.

Sincerely,

Peter Carter

General Manager Public Policy and Government Engagement
GS1 Australia

Part A – GS1 Australia Submission to Inquiry

Product Labelling and Standardised Product Data

Reform Direction 6.1, 8.2 & 9.1: Product Labelling for Textiles, Electronics, and Sustainability Claims and Digital Product Passports for Electric Vehicle Batteries (Interim Report, Pages 107, 134 & 142)

Any product labelling scheme or requirements for detailed product information introduced to support circular economy outcomes for any product or material such as textiles, electronics, or electric vehicle batteries—should be underpinned by internationally recognised open standards to ensure interoperability, reduce costs, and future-proof Australia's regulatory environment**.**

To achieve this, we have four key recommendations that the PC should consider, outlined in detail below.

GS1 Australia would welcome the opportunity to provide further advice on digital labelling, particularly in light of the global transition towards GS1 QR codes being scannable at retail points of sale by 2027. We expect to see industry uptake of GS1 QR codes significantly increase over the next few years globally, particularly as global labelling requirements increase.

For more information on digital labelling and its benefits please see **Appendix A**.

1. The Australian Government align labelling frameworks with global standards (e.g. GS1 and ISO), already adopted in international markets such as the European Union's Digital Product Passport system

Digital labelling provides a scalable and flexible solution to support emerging regulatory requirements while accommodating the increasing volume of information expected on products. However, it is essential that any new labelling framework aligns with internationally recognised standards to facilitate harmonisation, reduce regulatory burden, and maintain global market access.

Australia has the opportunity to learn from international initiatives, such as the European Union's Digital Product Passport (DPP) and the French Repairability Index, which demonstrate the critical role of structured, globally interoperable data in product labelling. We urge the Commission to review the research and work being done internationally on product labelling to not only avoid duplication of efforts but also streamline compliance for businesses operating across multiple markets.

<u>EU Regulatory Developments and GS1's Role</u>

Major regulatory initiatives in Europe are embedding the principles of open standards and traceability into law. The European Union's proposed Eco-design for Sustainable Products Regulation (ESPR) and Battery Regulation identifies DPPs as a foundational tool to support its transition to a circular economy. These passports will carry structured, verifiable information about each product—such as its composition, repairability, and recyclability—enabling more informed decisions by consumers, better resource recovery, and improved compliance with sustainability obligations. Crucially, the EU has mandated that DPP systems be fully interoperable across the single market,

both technically and semantically, so that product data can be exchanged seamlessly across global supply chains and national borders.

The legislation and structure for DPP requirements for batteries are further developed than for other product categories, with the first being required for batteries from 2027 – including for electric vehicles. More information on key identification and labelling requirements from a global standards perspective to enable DPPs for electric vehicles can be found here.

Lessons from Europe's Digital Product Passport Initiative

The European Union's move towards DPPs offers a valuable case study of the importance of open standards, and an approach to product labelling to meet circular economy outcomes. A Deloitte analysis[1] evaluated different implementation models for DPPs in the EU – ranging from fragmented proprietary systems to fully harmonised global standards – and found significant cost differences over ten years. A non-harmonised, proprietary approach was estimated to impose about €63–152 billion in costs, whereas leveraging an open, global standards-based model would cost roughly €3–7.1 billion.

In other words, the EU can avoid tens of billions in unnecessary expense by choosing a standards-aligned approach. Notably, Deloitte concluded that deploying well-defined open standards (such as GS1 and ISO standards) is the most cost-effective long-term solution for implementing DPPs.

Why is the cost disparity so large? Proprietary or siloed systems force companies to maintain multiple parallel solutions, interface between incompatible data standards, and constantly reconcile different data models – all of which drive up complexity and expense. These are essentially duplication costs that add no value. By contrast, a single open standard used by all parties avoids such redundancies.

The European findings underscore that harmonisation on global standards prevents "re-inventing the wheel" in each silo, yielding a far more efficient outcome.

2. Encourage the use of digital labelling solutions to support scalable and dynamic information delivery that will seamlessly work within existing operating contexts;

QR codes, based on global standards, are increasingly used to meet regulatory labelling requirements by providing consumers with dynamic and detailed information about packaging materials, recyclability, and disposal instructions (including in France currently, and proposed as part of the Packaging and Packaging Wate Regulations in Europe). There may be minimum mandatory information that must be provided on a physical label, that is small and contained, with further information and details able to be provided digitally. There are very practical advantages to off-pack data including making product information available in multiple languages, and tailoring information for different contexts (i.e. different information at end of life, compared to at purchase).

GS1 standards form a globally accepted system for identifying products, locations, and other key data, which is instrumental for product traceability in a circular economy. In fact, most companies worldwide (including exporters to the EU) already utilise GS1 identifiers like the Global Trade Item Number (GTIN: the barcode on products). These unique identifiers allow each product and

[1] Deloitte – Impact of GS1 Standards on Circularity in Europe , https://gs1.eu/wp-content/uploads/2024/11/Deloitte_GS1_Impact_of_international_open_standards_on_circularity_in_Europe_-1.pdf

component to be tracked throughout its lifecycle – from manufacture and use to reuse and end-of-life processing – and this traceability is crucial for enabling circular practices.

For example, if set up properly by a brand, a recycler or repairer can scan a GS1-powered QR code and instantly retrieve standardised data on a product's materials or repair history, helping determine the best recovery action. The same data carrier can be used to meet other regulatory or brand needs, and in future be scanned at point of sale. Because GS1 standards are open and interoperable, different companies' systems can all read and share the same information seamlessly, avoiding the data silos that hinder circular resource flows.

We are also seeing global sustainability certification bodies embrace these open standards into their criteria, to future-proof certified products to meet digital labelling requirements. For example, TCO Certified, a global sustainability certification for IT products (>20 million) has included a mandatory requirement on the following:

- Ensure that the certified product must have a data carrier containing a unique product identifier compatible with the GS1 digital link standard or equivalent
- The range of GTINs assigned for the product must be submitted to TCO-certified

Noting that the above are key requirements for DPPs, TCO Certified are driving early adoption ahead of European legislation through their leading certification program for ICT devices.

There is a community of technology enablers who are already supporting businesses with digital labelling transitions, and GS1 Australia would be willing to support and provide education on the use of globally recognised standards to facilitate this.

3. Promote coordination with peak industry bodies and leverage existing data standards and pilots (such as CIRPASS and Trace4Value) to avoid duplication and accelerate implementation;

This emphasis on interoperability reflects a recognition that harmonised, standards-based approaches are essential to enabling circular practices at scale. In support of this, the EU-funded CIRPASS project brings together over 30 international organisations across industry, government, standards development and academia (including GS1) to develop a common framework for DPP implementation. This includes defining standardised data models, aligning across sectors such as electronics, batteries, and textiles, and piloting approaches to ensure practical deployment. The CIRPASS consortium is building on widely adopted, international open standards to ensure any future product passport systems can work globally, not just regionally.

For example, for textiles, there are many examples of data protocols developed through industry collaboration that should be utilised, such as this DPP textile data protocol developed by the Trace4Value project. For electric vehicles, we recommend the PC consider the work by the Global Battery Alliance and Battery Pass, with extensive work being already done to create the frameworks for industrial battery passports, including for electric vehicles.

To achieve this alignment, it will be critical to bring together national agencies and relevant peak bodies, to review international practices and adopt these existing frameworks locally.

4. Ensure that any Australian scheme enables international market compatibility and avoids creating Australia-specific bespoke requirements that would increase cost and complexity for business.

Leveraging internationally accepted standards (such as GS1's system of globally unique product identifiers and data exchange, which are also Australian Standards) offers a proven way to minimise costs and maximise impact. Using common standards across borders means industry can build on existing tools and processes rather than "reinvent the wheel" for an Australian-specific scheme. Benefits include:

- It lowers compliance costs for businesses. Companies can meet Australian requirements using the same labels, codes and data systems they already use for other markets, rather than developing Australia-specific solutions from scratch.
- Avoids duplicated effort and systems, which is especially important for small and medium-sized enterprises (SMEs) with limited resources. In short, by using established international standards (like GS1 identifiers and data formats), businesses can "plug and play" into any new sustainability labelling regime with minimal new investment or IT overhead.
- A standards-aligned approach helps avoid unintended trade barriers. If Australia's labelling requirements mirror global norms, foreign suppliers likely won't need to significantly modify their existing processes to comply, and Australian exporters will seamlessly meet overseas data requirements as well. In contrast, a unique or incompatible national standard could raise costs for our trading partners or even discourage them from our market.

For Australia, aligning with these developments provides a valuable opportunity to ensure any national approach to product labelling or digital traceability is compatible with major global trading partners and avoids duplicative or bespoke solutions that could increase costs and complexity for business. For example, Home Affairs is currently focused on a cyber-security risk rating of IOT devices like cameras and reorders. It is desirable that one on-pack or on-device label links to cyber-security risk along with any other regulated or unregulated data of relevance to users.

Federal Government policy regarding the use of international and national standards is very clear. Australia's Digital Trade Strategy (DFAT April 2022) says "incorporation of international standards into domestic frameworks can foster the necessary compatibility to accelerate the adoption of digital technologies and processes, thereby growing industries, growing markets and growing the economy."[2] Best Practice Guide to Using Standards and Risk Assessment in Policy and Regulation (DISR, 2016) notes "'if a system, service or product has been approved under a trusted International Standard or risk assessment, Australian regulators should not impose any additional requirements unless it can be demonstrated that there is a good reason to do so .'[3]

These principles are consistent with Australia's obligations under the World Trade Organisation's Technical Barriers to Trade Agreement[4].

[2] https://www.dfat.gov.au/trade/services-and-digital-trade/e-commerce-and-digital-trade/digital-trade-strategy
[3] https://www.industry.gov.au/sites/default/files/June%202018/document/extra/best-practice-guide-to-using-standards-and-risk-assessments-in-policy-and-regulation.pdf
[44] https://www.dfat.gov.au/trade/organisations/wto/technical-barriers-to-trade-tbt

Recycled Content Traceability & Packaging Standards

Reform Direction 4.1: Enabling Fit-for-Purpose Use of Recycled Materials in Public Projects (Interim Report, Page 75)

To enable effective uptake of recycled content in infrastructure, the PC should consider advising that:

- **The Australian Government continue to support implementation of the National Framework for Recycled Content Traceability (NFRCT), including capability-building initiatives for the post-collection and processing sectors;**
- **Labelling requirements such as ReMade in Australia ensure that participants are able to use digital labelling options to provide detailed information.**

GS1 Australia supports the PC's focus on enabling greater use of recycled materials in public infrastructure as one of the most effective ways to increase demand for recycled content. Leveraging government purchasing power through procurement is a key circular economy policy lever and can drive significant volumes of recycled materials into high-value, long-life applications such as roads and public buildings.

However, unlocking this opportunity requires not only regulatory reform, but also trusted information and systems that help project teams make confident, evidence-based decisions. In this context, traceability is a powerful enabler. It allows for greater transparency in the origin and quality of recycled inputs, helping reduce perceived risks and improve trust in circular construction materials. Importantly, traceability also supports efficient recall processes and quality assurance in the event of safety issues—essential in the infrastructure sector.

GS1 Australia is actively working with industry to strengthen traceability capability, including through our support for the National Framework for Recycled Content Traceability (NFRCT). Early insights from this work suggest that the post-collection sector—particularly materials recovery and processing—requires further support and capability-building to adopt traceability practices at scale. We expect this will improve over time as standardised approaches and solution providers mature, with support from DCCEEW.

With respect to the ReMade in Australia initiative, it has a clear role in helping consumers identify locally made products with recycled content. However, as labelling becomes more crowded with logos and symbols, we encourage the PC to consider how digital labelling—such as QR codes linking to verifiable sustainability information—can support ReMade and other labelling requirements (domestically and internationally). This approach offers flexibility, reduces packaging clutter, and ensures information remains accessible, current and trustworthy. Please see our advice on product labelling above for more information.

Sustainable Procurement & Supply Chain Transparency

Reform Direction 4.2: Coordination Mechanisms to Enhance Sustainable Procurement Policies (Interim Report, Page 78)

To improve the uptake of circular and sustainable products through public procurement, the PC should consider:

- **Use of standardised national product registries that enable consistent, structured access to product-level information—including recycled content, durability, carbon footprint, and certifications;**
- **Ensuring coordination mechanisms between jurisdictions include a focus on data consistency and interoperability, not just policy alignment, to reduce duplication and administrative burden for suppliers;**

Procurement policies and purchasing decisions play a critical role in driving circular and sustainable outcomes. However, to make informed decisions, procurement authorities require timely access to accurate, trusted information about the products and services available to them—particularly in relation to recycled content, durability, certification, and environmental performance.

GS1 Australia encourages the PC to consider the role of *soft national infrastructure*[1]—such as standardised product registries—in enhancing coordination and transparency across the procurement supply chain. A consistent, national approach to product information can reduce complexity and improve confidence in selecting more sustainable options. For more than 20 years, the National Product Catalogue (NPC), maintained by GS1 Australia and GS1 New Zealand and underpinned by global standards, has enabled the efficient exchange of product master data across sectors including food, grocery, healthcare and rail. With data on over 2 million products from more than 2,500 suppliers, the NPC demonstrates how standardised, consensus-driven data sharing can support both commercial efficiency and public outcomes.

In publicly operated sectors such as healthcare, inclusion of NPC usage in tender requirements has allowed purchasing authorities to access comprehensive, standardised product information with ease. As the scope of sustainable procurement expands, there is growing interest in including product-level sustainability attributes such as carbon footprint, packaging recyclability, and relevant certifications. These evolving information needs further highlight the value of national data registries in supporting informed procurement aligned with circular economy goals.

We encourage the PC to explore how registries like the NPC—and the standardised data infrastructure that underpins them—can be further leveraged to connect procurement authorities with the information they need to confidently adopt recycled materials and circular products. National coordination mechanisms should consider not just policy and engagement, but also the foundational data systems that allow sustainable procurement to scale effectively and consistently across jurisdictions.

Harmonisation of Circular Economy Regulations

Reform Direction 10.1: Governance Arrangements to Harmonise Regulations That Pose Barriers to Circularity (Interim Report, Page 155)

To reduce fragmentation and support a scalable, consistent approach to circular economy regulation, the PC should conside:

- **Any new or existing inter-jurisdictional body established to progress circular economy reform include structured engagement with industry, including peak bodies and technical standards organisations;**
- **Harmonisation be supported by standardised data infrastructure and globally recognised identifiers, enabling consistent implementation across jurisdictions and sectors;**
- **Alignment with international regulatory developments, such as the EU's Digital Product Passport and Ecodesign frameworks, be prioritised to ensure Australian industry remains globally competitive and interoperable.**

GS1 Australia supports the PC's view that regulatory harmonisation is essential to unlocking circular economy opportunities and reducing barriers to adoption across jurisdictions. One of the most significant challenges GS1 Australia observes is the lack of consistency in regulatory and reporting frameworks between states and territories—such as variations in single-use plastic bans, Container Deposit Schemes (CDS), and packaging requirements. This divergence adds considerable complexity and cost for businesses that operate nationally, particularly when data collection and reporting obligations differ across jurisdictions.

A unified national framework for circular economy regulation is crucial to reducing these burdens, enhancing compliance, and aligning with global best practices. Without national alignment, businesses face the challenge of customising product, packaging and labelling strategies for multiple local markets, which can stifle innovation, slow down sustainability transitions, and disadvantage small to medium enterprises. Furthermore, inconsistent regulatory settings make it more difficult to implement robust national data systems or traceability mechanisms, which are increasingly central to circular economy policies.

We encourage the PC to support greater intergovernmental coordination, and recommend that future governance mechanisms—whether built upon existing bodies or through a new interjurisdictional entity—include structured engagement with peak industry bodies and major supply chain actors. These organisations have the reach and capability to support industry transition, ensure harmonised implementation of standards, and assist smaller businesses to adapt. Examples such as the Australian Building Codes Board and the National Transport Commission demonstrate that regulatory harmonisation bodies can be effective when industry and technical stakeholders are embedded in the process.

From GS1 Australia's perspective as a global supply chain standards organisation, alignment with international frameworks and global data standards is just as critical as national harmonisation. Australia's domestic policy should support and enhance the competitiveness of Australian industry in

global markets. Increasingly, international regulations—such as the EU's Ecodesign for Sustainable Products Regulation and the development of DPP —are embedding requirements for unique product identification, standardised data sharing, and traceability. Australian regulatory systems should be interoperable with these initiatives to avoid placing local businesses at a disadvantage.

We support the PC's proposal for the Australian Government to take a stronger leadership role in facilitating regulatory harmonisation across states and territories. This includes chairing, agenda-setting, and resourcing coordination mechanisms, as well as considering a formal intergovernmental agreement with clear timeframes and deliverables. Should a dedicated interjurisdictional body be pursued, we encourage its mandate to include not only policy alignment, but also practical implementation support through standardised data infrastructure and sustained industry engagement.

By embedding global and national standards into harmonised regulatory frameworks, Australia can lower compliance costs, improve data consistency, and position its industries to thrive in both domestic and international circular economies.

Part B - About GS1 Australia and GS1 Standards

The GS1 system of standards is:

- Voluntary
- Multi-sector
- Globally adopted
- Technology agnostic
- ISO/IEC compliant
- Industry governed and led
- Australian Standard
- Not for Profit

Global membership is now close to three million organisations, spanning all segments of industry supply chains across diverse sectors.

At a national level, the GS1 system of ISO/IEC-compliant standards is increasingly adopted by governments to simplify regulatory systems. To illustrate, in New Zealand the local business identifier, or NZBN, is based on a GS1 identifier (the Global Location Number). An increasing number of economies are introducing GS1 standards in single window and trade processes, including the USA, Canada, Vietnam, New Zealand and China. China now uses GS1 keys to enhance the harmonised system (HS) of tariff codes to classify traded products. GS1 and WCO trade code nomenclature is well aligned and increasingly integrated.

Australian government examples include the Australian National Freight Data Hub and the Therapeutic Goods Administration medicines labelling orders both of which are based on GS1 standards. Over 20,000 companies use GS1 Standards in Australia.

From a founding member base of 12 countries, the GS1 federation of not-for-profit member organisations has grown to 118 national offices, supporting 150 nation-states to maintain the currency of data and provide open registers and related services to address economic and public policy priorities. In Australia, this includes national product registries, national product recall and national location registries. As not-for-profit entities, GS1 member organisations cover their operating costs through membership fees and the licencing of identification keys. All GS1 standards are available royalty-free for members and non-members to use.

GS1 also supports industry and governments in their implementation of standards through a range of tools and services including:

1. Education and training services to build skills and knowledge in the standards
2. Development of industry guidelines and implementation tools
3. Development and management of national and global registries supporting accurate master data related to products and locations
4. Engagement with technology vendors to develop an ecosystem of interoperable solutions, based on GS1 standards, that is available to industry.

GS1 standards are technology-agnostic and allow the implementation of data sharing across value chains in an interoperable manner. They enable each participant in the supply chain to make their own, independent commercial decisions in choosing technology and solution partners.