Product Traceability and Environmental Claims Verification

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Fire Australia 2024 Conference and Tradeshow

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SYNOPSIS

- Through the respective legislative arrangements of the States and Territories, there exist requirements for products to demonstrate they are fit for purpose through the provisions of the National Construction Code.
- Australian Consumer Laws, mirrored by the jurisdictions, relating to misleading representation and dangerous products also exist.
- New and emerging legislation, as well as client/consumer expectations, around product environmental footprints and modern slavery will involve Federal administration.
- Product traceability and environmental attestations are seen as a key feature in supporting the verification of claims.
- Governments are seeking to implement digitised trade facilitation solutions via eDATA Verifiable Credentials for Cross Border Trade.

DIGITAL PRODUCT PASSPORTS (DPPs)

- It's about traceability and authentication through digital technology that operates in an open-source system and is technology agnostic.
- Enables digital certification information to transit and be accessible at all times with the product as it moves through the supply chain from manufacturer to installation.
- Is a B2B tool as much as for building control system, with evidence events enabling review in the supply chain, where CABs play a key role in credentialing as part of the TIC process.
- Some standards exist, passport platform is being developed for Europe and data model schemas being tested.
- Elements of DPPs, such as scope, technology, data requirements and governance remain open with different levels of maturity in the EU's proposal (Source ANSI).

IMPETUS

Much of the impetus is delivering on the European Green Deal (EGD). The objective is to move towards low-emission technologies to achieve climate neutrality by 2050. DPPs are seen as an enabler that can both describe and authenticate claims made, as well as enable effective auditing.

The wider implications of DPPs in Europe is via the Ecodesign for Sustainable Products Directive (ESPR): Ecodesign for Sustainable Products Regulation - European Commission (europa.eu)

Conformity attestations, product data is expected to:

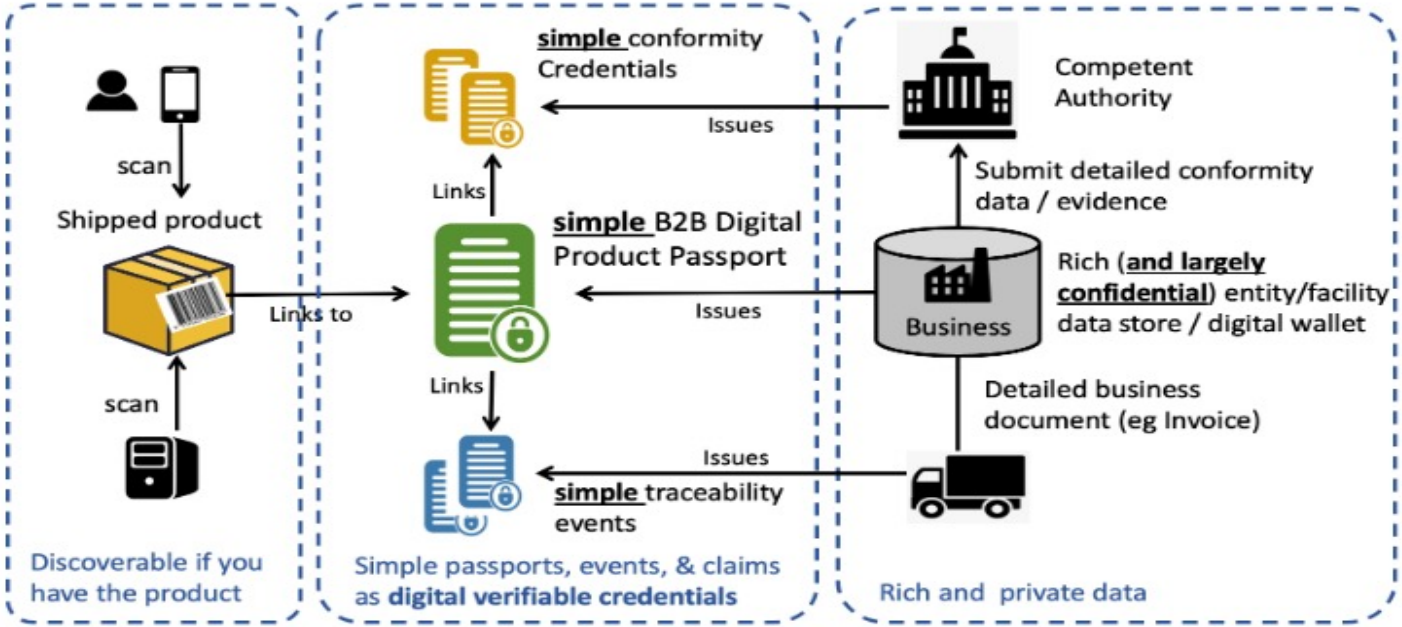
- Be provided in a more centralized way, through the implementation of a common EU database.
- Address conformance with product standards including statements regarding a specific product attributes/characteristics
- An obligation to declare environmental data (EPD data)
- Provide conformity assessment processes to link market surveillance authorities (Member states)

EUROPEAN DPPs

- From early 2024 the European Union will begin implementing requirements for DPPs to collect and share product information across the supply chain.
- The main goal of the European DPP is to enable product circularity and verify carbon neutrality. It will be rolled out to all products for sale in the European markets over a 10-year period starting with textiles and electronic goods.
- It is anticipated construction products will be captured in 2027
- In conjunction with European Construction Products Regulation (CPR) it will include a priority list of construction products (see slide 10)

Principles

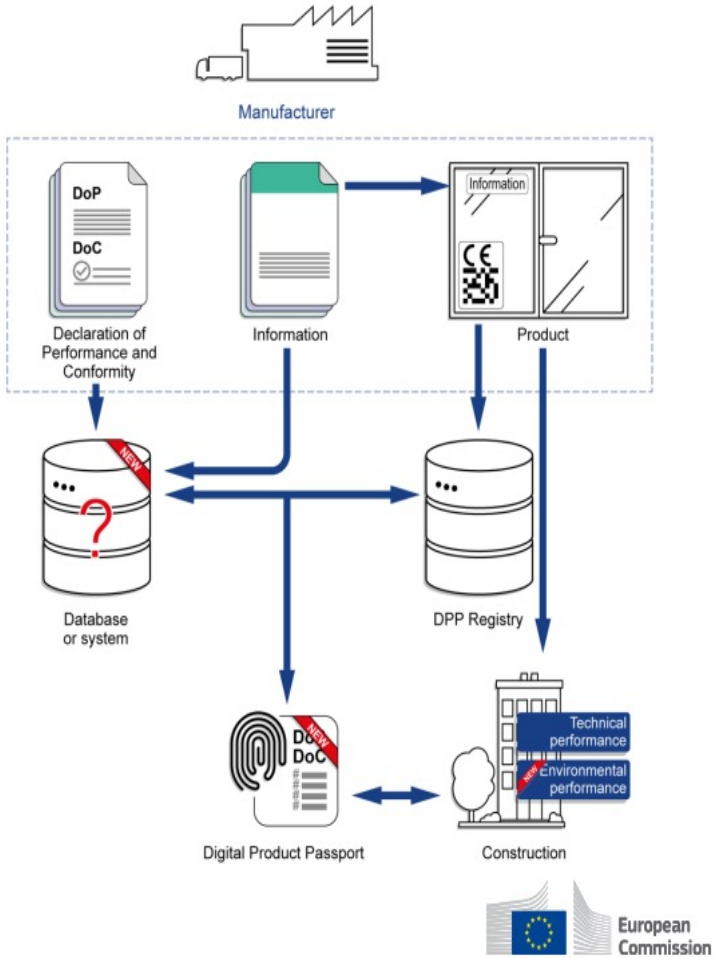
Each Actor



Source: United Nations Environment Program

EUROPEAN DPP SYSTEM

Source: CoBuilder



Note: Manufacturer uploads

Relevant data into database

CPR priorities

Fire

Dangerous substances

Environmental sustainability

2021	1	Precast concrete products	13	Floorings	25	Gypsum
2021	2	Structural metallic products	14	ETICs	26	Anchors and fasteners
2022	3	Reinforcing prestressing steel	15	Curtain walling	27	Membranes
2022	4	Doors, windows and shutters	16	Wood based panels	28	Glass
2023	5	Cement	17	Structural bearings	29	Geotextiles
2023	6	Thermal insulating products	18	Kits and assemblies	30	Sanitary appliances
...	7	Structural timber products	19	Wall and ceiling finishes	31	Pipes and tanks
	8	Concrete, mortar and grout	20	Space heating appliances	32	Cables
	9	Masonry	21	Roof coverings	33	Chimneys
	10	Aggregates	22	Circulation fixtures	34	Sealants
	11	Fixed firefighting equipment	23	Waste water disposal		
	12	Road construction products	24	Adhesives		

European Commission

Source: CoBuilder

DIGITAL DATA TEMPLATE (DDT)

- A DDT is a common data structure describing the characteristics (properties) of an object (usually a product), according to a source of information.
- When a data template is completed with information, the output is called a data sheet.
- In practice, a data sheet includes the performance and the technical characteristics of the object.
- With an information exchange format, data sheets can be shared and used by different IT tools or digital environments.

WhitePaper_DigitalProductConformityCertificateExchange_August2023_0.pdf

UNECE DIGITAL PRODUCT CONFOMRITY CERTIFICATE EXCHANGE (DPCCE)

- The DPCCE paper explores new possibilities that arise in terms of access to (rather than exchange of) conformity attestations. It proposes the use of technology to link conformity attestations to physical product supply as a way to address existing problems.
- The paper also points to ways in which such framing may provide a natural structure for the future transition to fully digitalised systems.

LEGAL CONSIDERATIONS: CROSS BORDER DIGITAL INTEROPERABILITY

Measures to ensure exchange of, or access to, product conformity attestations should go beyond creating a digital representation of a document that is e-authenticated, e-signed and electronically shared through a recognised format and technology. They must ensure that all of the following outcomes are met:

1. Establishing a match between conformity attestations and the physical product
2. Verifying the authority and status of the certificate issuers
3. Constant provision for verifying along the whole supply chain that an attestation is both genuine and reflective of the current issue status.

Achieving these outcomes in a digitalised setting presents legislative challenges, in at least in four areas:

1. Cooperation on conformity assessment procedures in digital trade
2. Digital legal identifiers
3. Data security and integrity
4. Balancing transparency and privacy protection

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KEY FINDINGS

1. There is a need for linking conformity attestations with physical product and to manage revision and issuing authority status.
2. The lack of any consistent processes for exchange of conformity attestations is a barrier to interoperability.
3. Paper-based exchange of conformity attestations is inherently affected by legal ambiguities & exploitable loopholes which can exacerbate other process shortcomings.
4. Any work towards digital exchange systems for conformity attestations must be made in the knowledge that the environment is ill defined and likely to change, which could have implications for future choices of identifiers and specific digital technologies.

KEY FINDINGS Cont'd

5. Conformity assessment bodies (CABs), or the parties (such as Scheme Owners) acting on their behalf in providing access to conformity data, are central to the process of managing revision status and that exchanging links to attestations may be more effective than exchanging attestations.

6. A set of complementary processes based on linked data can be expressed in generic terms that should serve to address the problem statement.

7. A more central role for CABs may make more consistent application of technology possible, including selective suppression of sensitive data.

BUSINESS REQUIREMENTS SPECIFICATION (BRS)

- A second DPCCE paper has now been released for public comment, known as the High Level Process BRS.
- The BRS has been developed to identify and define the business scenarios and transactions involved in accessing product conformity attestations, as well as relevant operational and legal aspects necessary to enable process mapping.
- The objective of the project is to help to ensure UNCEFACT standards can be integrated into emerging digital product conformity systems.
- The project complements existing UNCEFACT recommendations by addressing constraints relating to the paperless movement of goods reliant on underpinning product attestations

AUSTRALIAN CONTEXT

- There is no discussion in Australia concerning DPPs, although those who export to Europe naturally need to be familiar.
- Nevertheless, ESG legislation is being rolled out across Australia and will likely impact some businesses involved in the manufacture and supply of building products.
- The legislation is being phased in and may lead to disclosures on product life-cycle assessments and embodied carbon.
- This will necessitate greater use of tools such as environmental product declarations and whole of life-cycle assessments, which are designed to verify the claims of product manufacturers.
- Tools are being developed to assist with measuring, authenticating and auditing claims, including NABERS for buildings and ASHRAE/ICC 240P Greenhouse Gas Emissions Evaluation standard.

Traceability and Digitalisation of Building Product Information

Implementation Guide
for the Australian Construction Industry

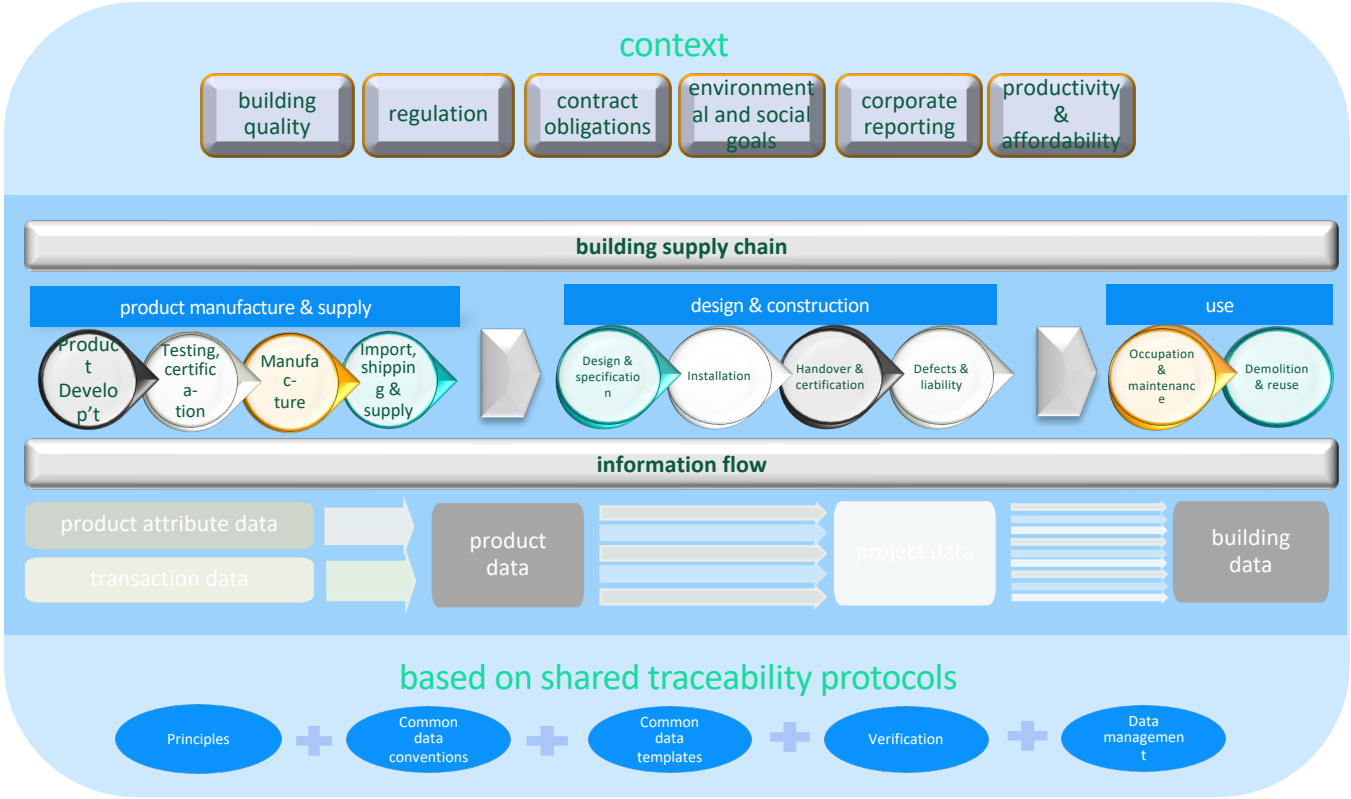
National Building Products Coalition

Public Review Draft

NATIONAL BULDING PRODUCTS COALITION (NBPC)

- Will soon launch an industry implementation guideline for traceability and digitalization of building product information.
- Digital traceability is the marking of products, the related testing, inspection and certification documentation to leverage the encoded data on key data elements.
- The guideline serves as an implementation framework for the traceability and digitalisation of building product information across the Australian construction supply chain.
- Intended to be used by building product manufacturers, suppliers and practitioners to implement digital traceability systems that provide unambiguous information regarding the identity, origin, transformation, location and attributes of building products.

TRACEABILITY



Source: National Building Products Coalition

FRAMEWORK SHARED PRINCIPLES

Outcome-based

Trustworthy and verifiable

Transparent

Secure and private

Interoperable and technology agnostic

Comprehensive in scope

Continuously improving