DPP FOR TEXTILES

Preparing for the adoption of Digital Product Passports

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Creative tech studio specialized in sustainable protocol-level solutions

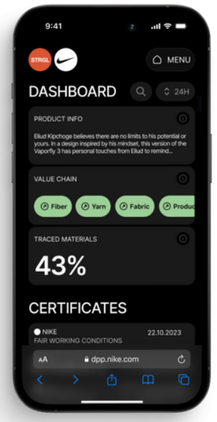
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26.1.2024

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/ INTRODUCTION



STRGL advises businesses on preparing for the adoption of DPPs in the textile industry. The consultations have been organized in partnership with Finnish Textile and Fashion, the central organization for textile, clothing, and fashion companies in Finland.

DIGITAL PRODUCT PASSPORT

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What is the digital product passport? 1/3

The digital product passport (DPP) is a digital solution that collects and displays information about the environmental impacts, raw materials, and safety of products.

What is it?

Technically speaking, a DPP is a file (like MP3s and PDFs) containing product-specific information from throughout the product's supply chain. The DPP information the user sees differs depending on the use case. The DPP database will be decentralized, which means DPP data will not be stored centrally but will remain under the control of the business putting a product on the market.

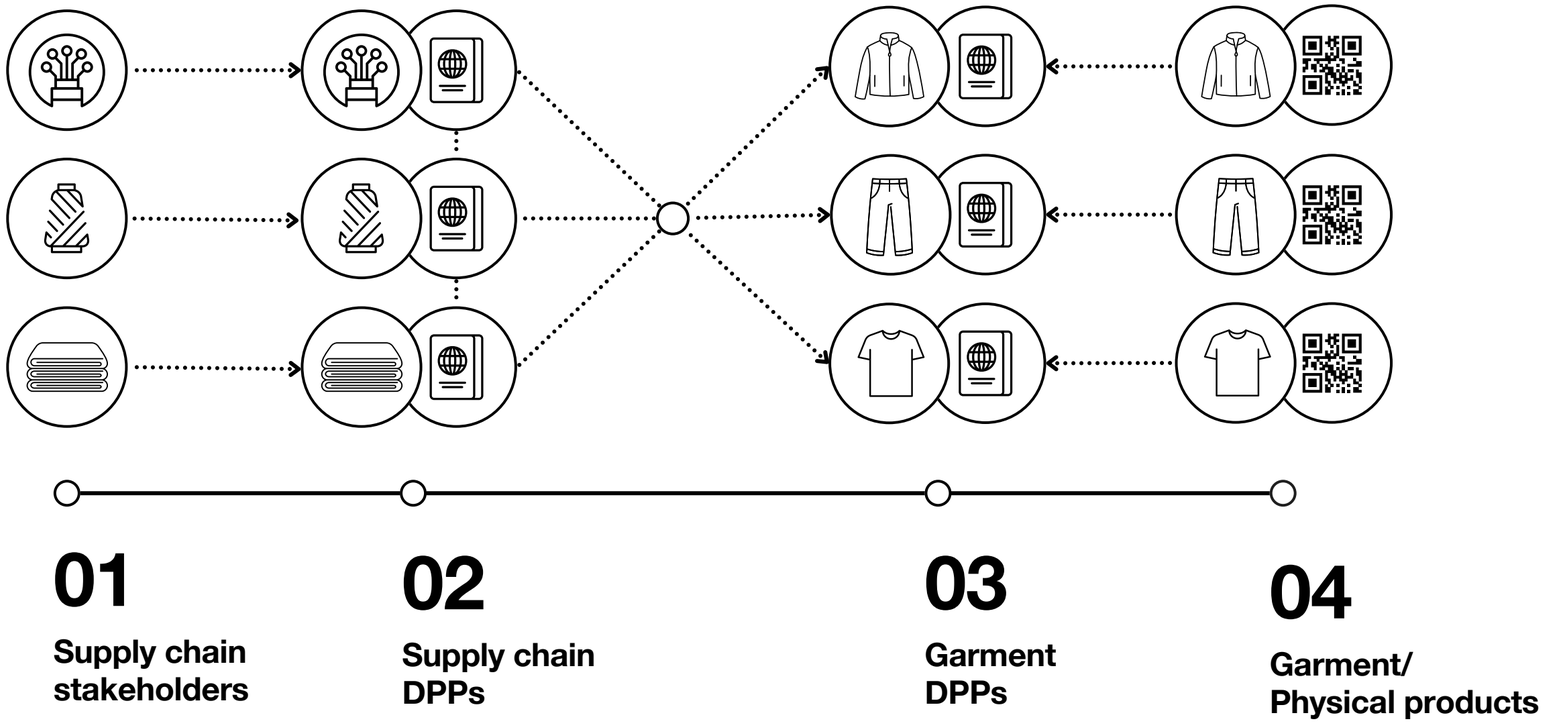
A DPP system, on the other hand, refers to the underlying technology and software for publishing DPPs that partners, legislators, and consumers are able to access without special hardware (i.e., with their smartphones).

Why is it needed?

With the DPP, the EU strives to enhance the traceability and transparency of value chains in the textile industry – a critical sector for European trade and a major contributor to climate change. The goal of the initiative is to promote sustainable practices in all tiers of the value chain.

/ FIGURE 1

DPPs collect and display products' supply chain data



What is the digital product passport? 2/3

Who does it concern?	DPPs will become mandatory for any business hoping to sell their products in the EU market. Eventually, for textiles, the idea is that information will flow in a “fiber-forward” manner, where subcontractors document and share data proactively, alleviating the brand’s burden to scout for information retrospectively (**Figure 2**).
What are the requirements?	The requirements for the DPP are two-fold. Firstly, there are requirements concerning what information should be made available in DPPs. Secondly, there are (mostly technical) performance requirements that pertain to DPP systems. These requirements will be mapped out in finer detail later in this report.
What is happening with DPPs currently?	The ESPR, or the Ecodesign for Sustainable Products Regulation, is the regulation demanding the implementation of DPPs. The contents of the ESPR are still under negotiation, and they are expected to be finalized by the end of 2025, followed by an 18-month transposition period. The requirements are product-group-specific, and they will first come into force for textiles, alongside other product groups significant for EU trade and climate change.

/ FIGURE 2

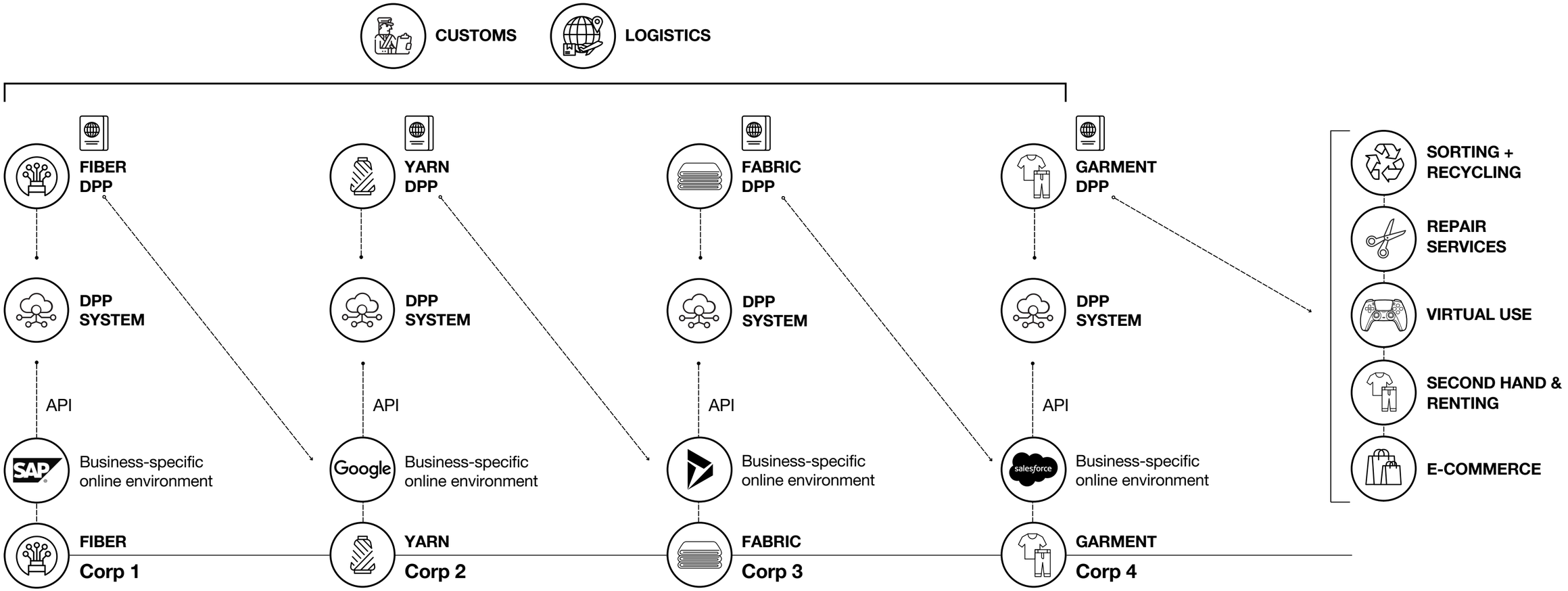


Figure 2. Eventually, for textiles, the idea with the DPP is that information will flow in a “fiber-forward” manner, where subcontractors document and share data proactively, alleviating the brand’s burden to scout for information retrospectively. Integrations can be built between DPP systems and ERPs or other online environments where product, supply chain, and brand-related information is stored. With DPPs, information can be made universally accessible to the relevant stakeholders, whether consumers or commercial or institutional value chain partners.

What is the digital product passport? 3/3

Are there DPP systems available currently?

Many companies have started the development of their versions of DPP systems, notably to comply with the French AGEC law. In addition, there are some commercial DPP systems available. It is important to note that these systems do not fully meet the as-yet-undefined requirements of the ESPR.

Still, the currently existing solutions can give insight into what digital product passports may look like once published and what innovative approaches there may be to utilizing digital product passports in various facets of one’s business, such as recycling or customer relationship management.

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LEGISLATION

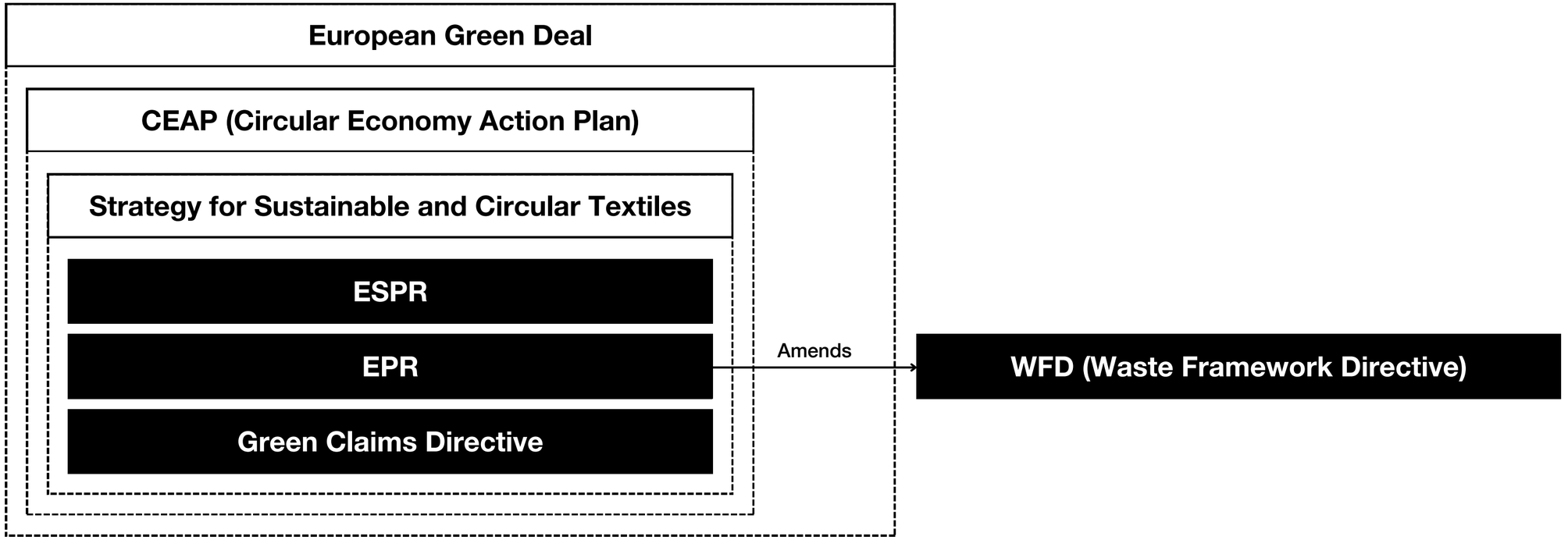
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Shifting consumer priorities and legislative landscape

Climate change and technological innovation have ushered a legislative push toward better supply chain traceability and a more competitive European market.

Consumer Demand	Alarmed by global warming, consumers are becoming more and more conscious about the buying decisions they make. To make informed decisions, they need access to more data across the product value chain.
The EU's Strategy for Sustainable and Circular Textiles	The EU's Strategy for Sustainable and Circular Textiles addresses the production, consumption, and disposal of textiles to promote the sustainability of this critical sector for European trade.
The European Data Strategy	The European Data Strategy aims to establish "a single market for data". It strives to make the EU a global leader in a data-driven society by establishing a pan-European data infrastructure that allows data to flow freely.

The European regulatory framework toward sustainability*



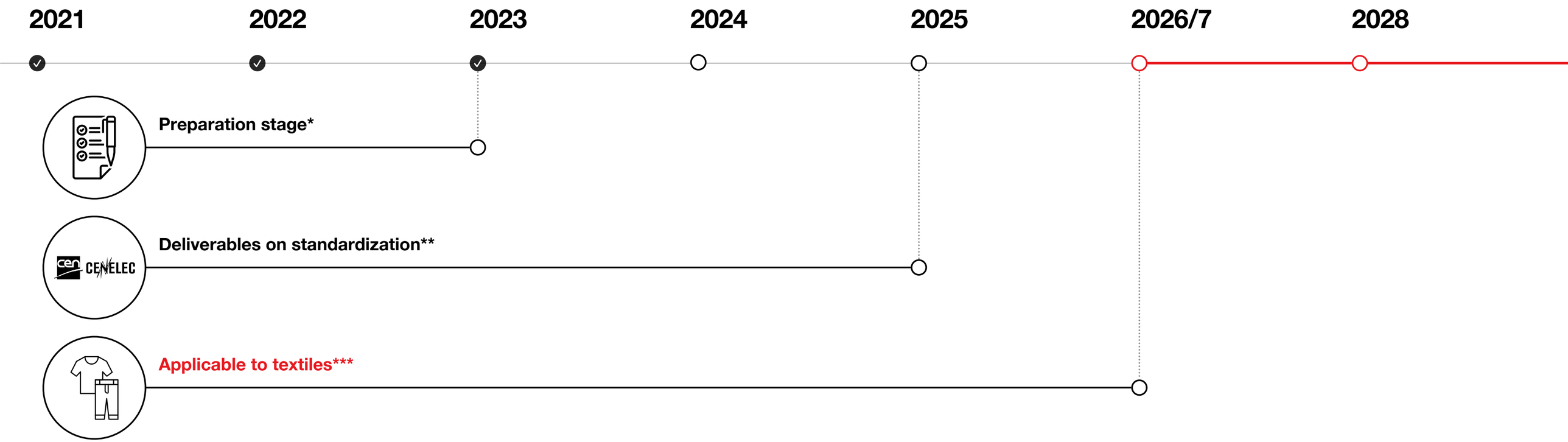
*This figure displays the most central regulations and directives regarding the DPP in the context of textile industry SMEs. Other regulatory initiatives might be mentioned throughout the report.

The EU's Strategy for Sustainable and Circular Textiles

Abbreviation	Name	Summary	Applicable
ESPR	Ecodesign for Sustainable Products Regulation	Seeks to improve the environmental performance of products by setting various standards manufacturers must meet before selling their products in the EU market. Requires products to have a Digital Product Passport containing mandatory information on circularity and other environmental aspects.	2026/27*
EPR	Extended Producer Responsibility	Extends the producer's responsibility to the post-consumer stage of a product. This includes the collection, recycling, and final disposal of the product. National EPR-based legislations are already active in some EU countries (e.g., the French AGEC law).	2024**
-	Green Claims Directive	A directive against greenwashing. It establishes clear criteria on how companies should prove their environmental claims and labels. Additionally, the directive sets requirements for these claims and labels to be checked by an independent and accredited verifier.	2024***

*The standardization process is estimated to be finished by the end of 2025, with an 18-month transposition period for companies. The requirements are product-group-specific, and textiles are among the primary product groups. Industry experts recommend an additional transposition period for SMEs.
**The final EU law is estimated to come into force in 2024. The communal collection of textile waste has been in Finnish law since 2023.
***The final EU law is estimated to come into force in 2024, after which individual countries have 24 months to adopt it nationally.

The estimated timeline for the ESPR requiring DPPs for products sold in the EU



*Euratex and Finnish Textile and Fashion recommend that textile businesses start preparing for the application of DPPs in 2023/24.
**The European Commission has submitted a standardization request to the DPP standardization committee (CEN-CENELEC, ETSI). The deadline for the deliverables is the end of 2025.
***After the adoption of the delegated act (the designated rules for a specific product group), the schedule of which is not yet certain, businesses will have 18 months to implement DPPs for the first product groups, which include textiles. Additionally, Euratex recommends an additional transposition period for SMEs, but any alleviations to the schedule have not been confirmed. Overall, the Commission has agreed the requirements for SMEs will not be “unreasonable”.

INFORMATION REQUIREMENTS

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Information requirements presented in the ESPR proposal 1/2

Below, we list the presently known information requirements for the DPP from the ESPR proposal. Overall, what will be required is “essential information” on the environmental impacts, raw materials, and safety of products. The requirements are expected to be finalized by the end of 2025.

Unique product identifier	The product ID used to uniquely identify a product (or batch) that will be digitized. E.g., GTIN (Global Trade Identification Number), SKU (Stock Keeping Unit), or Style Numbers.
Relevant commodity codes	The legal commodity codes used for international trade, e.g., the HS (Harmonized System) code.

Information requirements presented in the ESPR proposal 2/2

Compliance documentation	Including substances of concern/harmful substances (“yes” if concentration ≥ 0.1% in weight, along with the names of all the harmful substances).
User manuals, care instructions, warnings, or safety	Including the image of care icons.
Information about the manufacturer (unique operator identifiers)	The number used to identify the operator involved in specific value chain steps, e.g., OSH, GLN (Global Location Number), etc.
Material and composition information (substance level)	Including the material type, fiber composition, recycled content, etc.
Information for consumers, end-users, and treatment facilities on circularity services/possibilities	Including statements written by the brand, guided by the Green Claims Directive, and voluntary EU ecolabels.

Necessary data points according to Trace4Value

To provide a comprehensive estimate of the information structure of the DPP, we have utilized a report compiled by the Trace4Value project. The full report can be found **here**.

In addition to the ESPR proposal, Trace4Value has considered textile industry businesses' needs, related policies, GS1 standards, and other industry initiatives to come up with a list of 97 necessary data points for the DPP. These data points are listed in **Appendix 1** of this report (pp. 23-34) (with minor edits).

Not all the listed data points will be relevant to all stakeholders. Still, the list provides an indication of what the information structure of the DPP might be, as well as whether reporting on certain data points serves the company's strategy.

SYSTEM REQUIREMENTS

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Performance requirements presented in the standardization request 1/2

The European Commission is consulting industry experts* on systems standardization for the DPP. The eight areas of standardization are listed below. Like the information requirements, the deliverables for the standardization consultation will be finished by the end of 2025.

Unique identifiers	Identifiers should be unique to a specific product**, operator, or facility.
Data carriers and links between the physical product and digital representation	DPPs should be accessible through a standardized data carrier placed in the physical product, e.g., a QR code or an NFC chip.
Access rights management, information system security, and business confidentiality	To preserve business confidentiality, access rights will be put in place on a need-to-know basis (i.e., not all DPP data will be publicly available). Determining what party has access to which data will be the responsibility of the business putting their products in the EU market.

*The DPP standardization committee is comprised of CEN-CENELEC and ETSI.
**At the minimum on batch level. The identifier will be a code with a maximum length of 70 characters. The code will likely follow GS1 standards.

Performance requirements presented in the standardization request 2/2

Interoperability – technical, semantic, organizational	DPPs should be interoperable, meaning DPP data should be understandable and accessible by consumers, legislators, and partners, no matter the system in use.
Data processing, exchange protocols, and formats	Adding, updating, and sharing DPP data entries will be subject to rules. The data formats should be unambiguous and consistent across DPPs and will be based on existing standards to the greatest extent possible.
Data storage, archiving, and persistence	Data storage will be decentralized. DPP data should be accessible even when the operator is no longer active.
Data authentication, reliability, and integrity	All DPP data should be timely and verifiable. All data entries will be associated with an electronic signature of whoever made the entry.
APIs for DPP lifecycle management and searchability	The rules and standards pertaining to APIs transferring information to and from a DPP system.

APPENDICES

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/ APPENDIX 1

Info group*	Data field name	Data format	Definition
Brand information	Brand	Text (open format)	The primary brand of the product. Typically the brand on the label.
Brand information	Logo	Image (e.g., png, jpeg)	Brand logo.
Brand information	Sub-brand	Text (open format)	A sub-brand under which products may be sold. Often associated with different garment labels. May be sold in specialty collections or campaigns.
Brand information	Parent company	Text (open format)	The full name of the registered business that puts the product on the market. If there is one, the parent company of the primary *Brand* of the product.
Brand information	Trader	Text (open format)	The name of the company putting the product on the market, either the brand itself or another business. E.g., Zalando.
Brand information	Trader location	Text (fixed format)	The street address of the *Trader*.
Supply chain information	Supplier	Text (open format)	The name of the company operating a specific manufacturing facility where production took place.
Supply chain information	Supplier location	Text (fixed format)	The street address of the manufacturing facility where production took place.
Supply chain information	Facility registry	Text (fixed format)	The name of the registry used to identify the manufacturing facility where production took place. E.g., OSH, GLN. May be the same as *Operator registry*.

*Info groups (9): Brand information, Supply chain information, Product information, Material information, Digital identifier, Care information, Compliance information, Circularity information, Sustainability information

Source: Trace4Value

/ APPENDIX 1

Info group	Data field name	Data format	Definition
Supply chain information	Facility identifier	Text (fixed format)	The number in the registry used to identify the manufacturing facility where production took place. E.g., OSH, GLN. May be the same as *Operator identifier*.
Supply chain information	Operator registry	Text (fixed format)	The name of the registry used to identify an operator involved in specific value chain steps. E.g., OSH, GLN. May be the same as *Facility registry*.
Supply chain information	Operator identifier	Text (fixed format)	The number in the registry used to identify an operator involved in specific value chain steps. E.g., OSH, GLN. May be the same as *Facility identifier*.
Supply chain information	Country of origin: confection	Text (from standardized list)	The country in which the final product was manufactured.
Supply chain information	Country of origin: dyeing and printing	Text (from standardized list)	The country in which the final product was manufactured.
Supply chain information	Country of origin: weaving and knitting	Text (from standardized list)	The country in which the final product was manufactured.

Source: Trace4Value

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Info group	Data field name	Data format	Definition
Product information	Product identification systems	Text (fixed format)	The Product ID system a brand uses to uniquely identify a product that will be digitized. E.g., GTIN, SKU, Style numbers.
Product information	Product identification value	Text (fixed format)	The value associated with the Product ID system a brand uses to uniquely identify a product that will be digitized. E.g., GTIN, SKU, Style numbers.
Product information	Unique product ID	Text (fixed format)	The unique identification number assigned to individual products. With this, a single item can be differentiated from others under the same GTIN, SKU, Style number, etc.
Product information	Product name	Text (open format)	A unique name given to each of the brand's products.
Product information	Consumer-facing description	Text (open format)	The brief consumer-facing description of the product listing essential properties. Often used as the primary product description in e-commerce.
Product information	Photo	Image (e.g., png, jpeg)	Product images.
Product information	Article number	Text (fixed format)	Style number + color number.
Product information	Item number	Text (fixed format)	Style number + color number + size.
Product information	PO number	Text (fixed format)	The unique Purchase order number assigned to a specific transaction.
Product information	Commodity code system	Text (open format)	The legal Commodity code system used for international trade. E.g., HS code.

Source: Trace4Value

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Info group	Data field name	Data format	Definition
Product information	Commodity code number	Text (open format)	The legal Commodity code number used for international trade. E.g., HS code.
Product information	Year of intended sale (new)	Number (fixed format)	The year in which the product will be (was) originally marketed and sold.
Product information	Season of intended sale (new)	Text (from standardized list)	The season in which the product will be (was) originally marketed and sold.
Product information	Price currency	Text (fixed format)	The standard currency code for price information.
Product information	MSRP	Number (fixed format)	The Manufacturer Suggested Retail Price (MSRP), or the intended full price of the product, determined by the brand.
Product information	Resale price	Number (fixed format)	The price of the item when sold for reuse.
Product information	Size	Text (open format)	The size of the item as listed on the label.
Product information	Country code for size	Text (from standardized list)	The country code that corresponds to the sizing systems used for the product.
Product information	Color (brand)	Text (open format)	The main color represented on the garment as described by the brand.
Product information	Color (general)	Text (from standardized list)	The main color represented on the garment as determined by standardized values.

Source: Trace4Value

/ APPENDIX 1

Info group	Data field name	Data format	Definition
Product information	Category	Text (from standardized list)	A high-level description of the product category to differentiate between clothing, footwear, etc.
Product information	Product group	Text (from standardized list)	The product category name. Should be included if the company uses the Higg Index for Product Categorization.
Product information	Type: item	Text (from standardized list)	The specific type of apparel item that describes the product.
Product information	Age group	Text (open format)	The age group that the product is intended for.
Product information	Gender	Text (from standardized list)	The gender that the product is intended for.
Product information	Market segment	Text (from standardized list)	The market segment of the product.
Product information	Water properties	Text (from standardized list)	The water properties of the finished product.
Product information	Final product net weight	Number (fixed format)	The weight of the finished product, excluding packaging.
Product information	Unit of weight	Text (from standardized list)	The unit of measurement used for the *Final product net weight*.

Source: Trace4Value

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Info group	Data field name	Data format	Definition
Material information	Component	Text (from standardized list)	The part of the product that is being described, including info about material type, fiber composition, recycled content, etc.
Material information	Material	Text (from standardized list)	The type(s) of material the *Component* is made from. Dictates further material description needs, such as fiber composition, leather grade, etc.
Material information	Content name	Text (from standardized list)	For textile products, describes the type of fiber used for the *Component*.
Material information	Content value	Number (fixed format)	For textile products, represents the percentage of the fiber used for the *Component*.
Material information	Content source	Text (from standardized list)	For textile products, represents the source of the fiber used for the *Component*.
Material information	Material trademarks	Text (open format)	The trademarks and branded material names used in finished products, excluding certifications.
Material information	Content name other	Text (open format)	Used if the content is not available in the pre-defined *Content name* list, and “Other” was selected.
Material information	Trim type	Text (from standardized list)	Used if the content is marked as a trim. Represents a description of the type of trim that was used.
Material information	Component weight	Number (fixed format)	The weight of the component being described. Must be in the same unit as the *Final product net weight*.

Source: Trace4Value

/ APPENDIX 1

Info group	Data field name	Data format	Definition
Material information	Recycled	Checkbox (yes/no)	Selected if the material composition has a certain percentage of recycled input.
Material information	Recycled percentage	Number (fixed format)	The percentage of recycled materials in the product.
Material information	Recycled input source	Text (from standardized list)	If there is recycled content, the source of the input.
Material information	Leather species	Text (from standardized list)	Only available for leather. The species of animal used.
Material information	Leather grade	Text (from standardized list)	Only available for leather. The leather grade.
Material information	Leather species other	Text (open format)	Only available for leather. Used if the species is not available in the pre-defined *Leather species* list, and “Other” was selected.
Material information	Leather pattern	Text (from standardized list)	Only available for leather. The type of pattern, texture, or decorative surface treatment used.
Material information	Leather thickness	Number (fixed format)	Only available for leather alternatives. The thickness in mm.
Material information	Leather max	Number (fixed format)	Only available for leather. The maximum thickness in mm.
Material information	Leather min	Number (fixed format)	Only available for leather. The minimum thickness in mm.

Source: Trace4Value

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Info group	Data field name	Data format	Definition
Material information	Sewing thread content	Text (from standardized list)	The fiber composition of the sewing yarns used.
Material information	Print ink type	Text (from standardized list)	The type of ink used if the textile or product was printed.
Material information	Dye class	Text (from standardized list)	The type of dye process used.
Material information	Dye class standard	Text (from standardized list)	The standard list used to select the type of dye process used.
Material information	Finishes	Text (from standardized list)	The finishes applied to the product or components.
Material information	Pattern	Text (from standardized list)	The types of pattern used.
Digital identifier	Data carrier/identifier type	Text (from standardized list)	The type of physical data carrier attached to the product. E.g., RFID thread, NFC chip, QR code.
Digital identifier	Data carrier/identifier material	Text (from standardized list)	The type of material the physical data carrier is made from. E.g., polyester. Multiple materials may be needed.
Digital identifier	Data carrier/identifier location	Text (from standardized list)	The location on the garment on which the physical data carrier may be found.

Source: Trace4Value

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Info group	Data field name	Data format	Definition
Care information	Care image	Image (e.g., png, jpeg)	An image of the care icons.
Care information	Care text	Text (open format)	A written description of how to take care of the product. E.g., “Wash carefully in cold water.”, “Air dry.”, etc.
Care information	Safety information	Text (open format)	A written description of the warnings or safety information associated with the product. E.g., “Keep away from fire.”
Compliance information	Harmful substances	Yes/no	The presence of harmful substances must be disclosed with the mention “Contains a harmful substance.” if the substance is present at a concentration higher than 0.1% (in weight) in the product. The statement is followed by the names of all the harmful substances in the product. French Decree No. 2022-748; Art. R. 541-221. IX.
Compliance information	Harmful substances info	Text (open format)	French Decree No. 2022-748; Art. R. 541-221. IX.
Compliance information	Certifications	Text (from standardized list)	The certifications or other marks of compliance that the product has received, including both product and material certifications.
Compliance information	Certifications validation	Yet to be confirmed in the Green Claims Directive, the ESPR, and others.	Yet to be confirmed in the Green Claims Directive, the ESPR, and others.

Source: Trace4Value

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Info group	Data field name	Data format	Definition
Compliance information	Chemical compliance (standard)	Text (from standardized list)	The list of product-level chemical compliance certifications or regulations with which the product complies.
Compliance information	Chemical compliance validation	Yet to be confirmed in the Green Claims Directive, the ESPR, and others.	Yet to be confirmed in the Green Claims Directive, the ESPR, and others.
Compliance information	Chemical compliance Scan 4 Chem Link	Text (open format)	Optional if none of the options for *Chemical compliance* are applicable.
Compliance information	Microfibers	Yes/no and/or text (open format)	Information regarding microplastic fibers shall appear with the mention “The product releases plastic microfibers in the environment during washing.” if the product contains more than 50% of synthetic fibers by weight.
Compliance information	Traceability provider	Text (open format)	The solution provider for the product’s traceability data. E.g., TrusTrace (the said example is likely not fully compliant in its current state). May be multiple.

Source: Trace4Value

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Info group	Data field name	Data format	Definition
Circularity information	Performance	Yet to be confirmed in the EPR, the ESPR, and others.	Yet to be confirmed in the EPR, the ESPR, and others.
Circularity information	Recyclability	Text (open format)	If the product is identified as “Most recyclable product”, recyclability information must be disclosed. Specific guidelines follow French Decree No. 2022-748; Art. R. 541-221. VI.
Circularity information	Take back instructions	Text (open format)	A description of how to return the item after use.
Circularity information	Recycling instructions	Text (open format)	A description of how to recycle the item.
Circularity information	Disassembly instructions sorters	Text (open format)	A description of how to take the components apart at the sorting/recycling stage, if needed.
Circularity information	Disassembly instructions user	Text (open format)	A description of how to take the components apart for users.
Circularity information	circular.fashion* Circular Design Strategy	Text (from standardized list)	The name of the Circular Design Strategy applied.
Circularity information	circular.fashion* Circular Design Strategy description	Text (from standardized list)	A description of the circular design strategy used, provided by circular.fashion*.

*circular.fashion is a sustainable change agency creating product and system innovation for a circular economy in fashion and textiles.
The circular.fashion system is a digital platform for circular design and closed loop recycling.

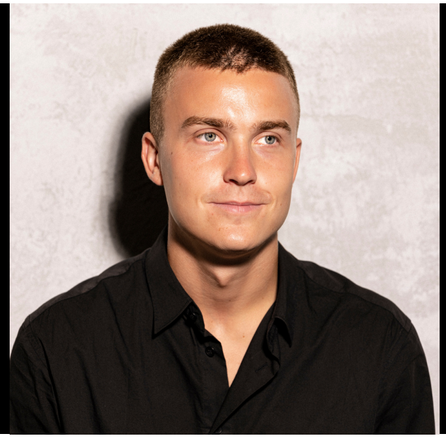
Source: Trace4Value

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Info group	Data field name	Data format	Definition
Circularity information	Repair instructions	Text (open-format)	A description of how to repair the garment.
Sustainability information	Circular, sustainable, social brand statement	Text (open format)	Information about the circular, sustainable, and social practices in place as described by the brand. Excludes certifications on the product level. Guided by the Green Claims Directive.
Sustainability information	Circular, sustainable, social brand statement link	Text (open format) and/or link(s)	Link(s) to the EU Certificate of Conformity and/or more information about circular, sustainable, and social practices in place as validated by a 3rd party or reported in regulatory reporting systems. Excludes certifications on the product level. Guided by the Green Claims Directive.
Sustainability information	Quantified environmental footprint	Yet to be confirmed in the CSRD, the ESPR, and others.	Yet to be confirmed in the CSRD, the ESPR, and others.

Source: Trace4Value

Questions, concerns? Please reach out.



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