



How to pave the way to the future Digital Product Passport *Opening*

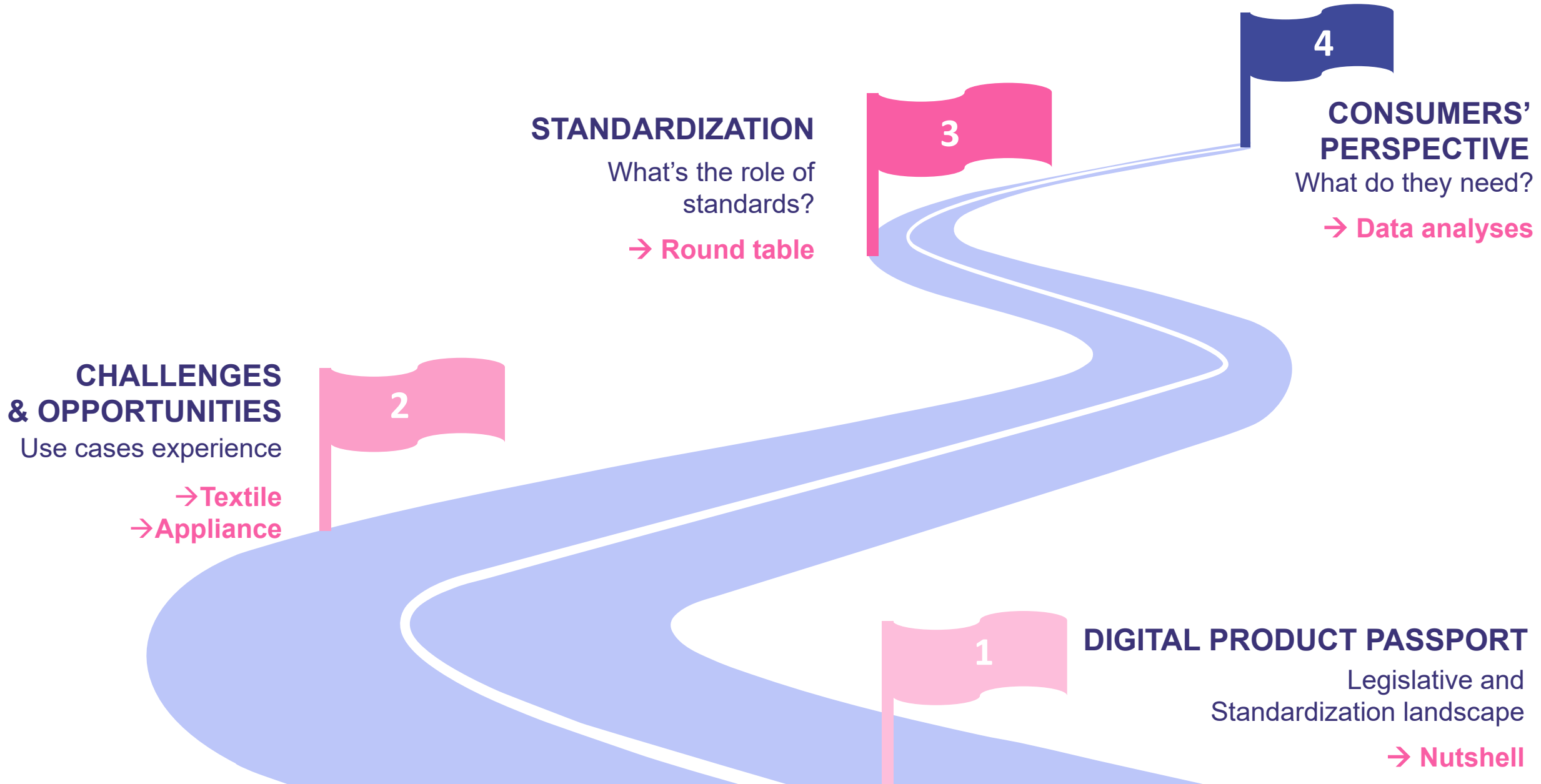
Cristina Di Maria – Research Project Manager UNI Ente Italiano di Normazione

Rimini - 07/11/2023



These projects have received funding from the European Union's H2020 programme under Grant Agreement No. 958448 & 958352

Today Agenda



Thank you for your attention!

cristina.dimaria@uni.com

Stay tuned!



- circthread.com
- trick-project.eu



- company/circthread-project/
- company/trickproject/



Digital Product Passports

The legislative and standardisation landscape in a nutshell

www.circthread.com – www.trick.com

Rembrandt Koppelaar - EcoWise

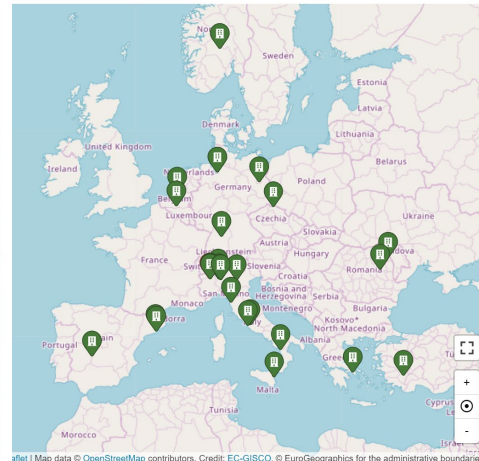
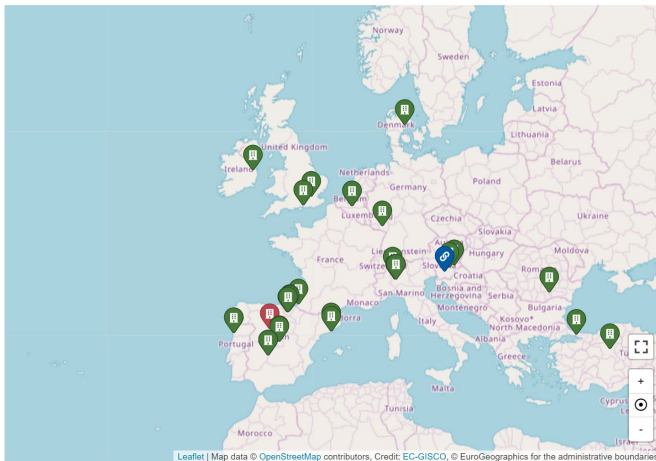
Rimini - 07/11/2023



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CircThread & TRICK: Develop, implement and assess a circular Economy oriented Product Information Management system

- The four years TRICK & CircThread projects 2021 – 2025 are funded by the European Union under the EU H2020 programme.
- The projects are in response to the EU project funding call '[Develop, implement and assess a circular economy oriented product information management system for complex products from cradle to cradle](#)'



Project Information

TRICK

Grant agreement ID: 958352



DOI

[10.3030/958352](https://doi.org/10.3030/958352)

Start date

1 May 2021

End date

31 October 2024

Funded under

SOCIETAL CHALLENGES - Climate action,
Environment, Resource Efficiency and Raw Materials

Total cost

€ 9 600 448,50

EU contribution

€ 7 997 853,75

Coordinated by

FRATELLI PIACENZA S.P.A.

Italy



Project Information

CircThread

Grant agreement ID: 958448



DOI

[10.3030/958448](https://doi.org/10.3030/958448)

Start date

1 June 2021

End date

31 May 2025

Funded under

SOCIETAL CHALLENGES - Climate action,
Environment, Resource Efficiency and Raw Materials

Total cost

€ 9 883 198,21

EU contribution

€ 7 994 956,75

Coordinated by

FUNDACION CARTIF

Spain



Our innovation projects are pioneering Digital Product Passports, in response to the EU SC5-31 H2020 call text

Develop, implement and assess a circular economy oriented product information management system for complex products from cradle to cradle

TOPIC ID: CE-SC5-31-2020

‘There is thus a need for designing and **piloting an information system for raw materials and components in products and their environmental performance** that is linked to the **material and value flows in an ideally circular system.**’

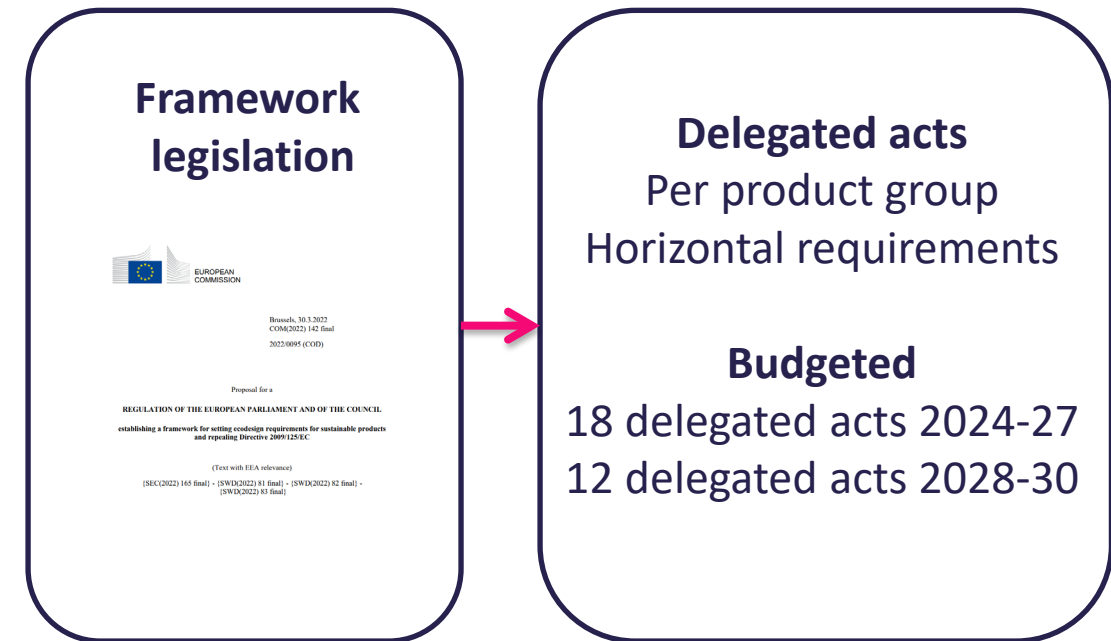
‘**Recyclability, dismantlability, recycled content, the sustainability of sourcing** of raw materials, security of supply, and ultimately the overall **environmental and social performance** along the life cycle, are also related to the composition and design of products.’

‘To facilitate open innovation and transferability, open solutions such as **open source software, open hardware design, and open access to data** are encouraged.’

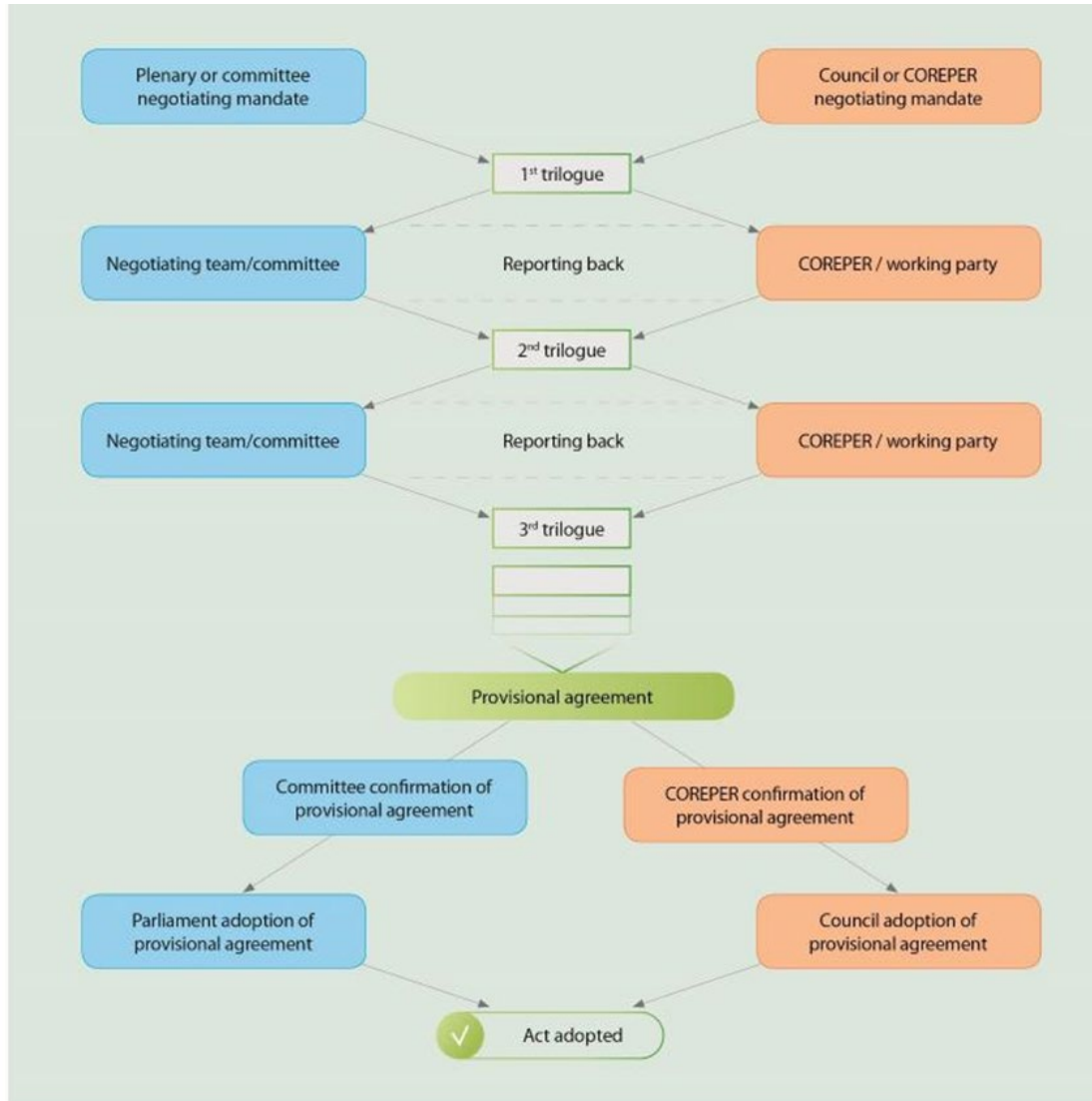
‘The concept, the data flow and the **specific needs of each actor should be studied in a pilot** with operators that are interested in making their business sustainable and future-proof.... bring together all relevant actors along product related value chains’

Legislative context: The EU Ecodesign for Sustainable Products Regulation (ESPR) renewal

- Broadens the scope of the existing Ecodesign Directive both in **terms of products** and **new kinds of requirements**
- Defines that [product group] eco-design requirements can **include performance and information requirements**.



Legislative context: The ESPR legislation trilogues



- Negotiation process on-going between EU commission and EU parliament
- 1st Trilogue held on August 30th between EU commission, EU Parliament and EU council

The new ESPR mandates Digital Product Passports

- **Product passports can vary depending on the delegated act per product group** which specifies:
 - the type of data carrier to be **used** ;
 - if the product passport is **at the model, batch or item level** ;
 - the manner in which the **product passport is made accessible by customers before they are bound by a sales contract** ;
 - **the product life cycle actors that will receive access to the information in the product passport**
 - **the actors that may introduce or update the information in the product passport**
 - **the period** for which the product passport remains available.
- “The economic operator placing the product on the market **shall provide dealers with a digital copy of the data carrier** to allow the dealer **to make it accessible to customers where they cannot physically access the product**. The economic operator shall provide that digital copy free of charge and within 5 working days of the dealer’s request.”
- “Consumers, economic operators and other relevant actors shall **have free access to the product passport based on their respective access rights** set out in the applicable delegated act”

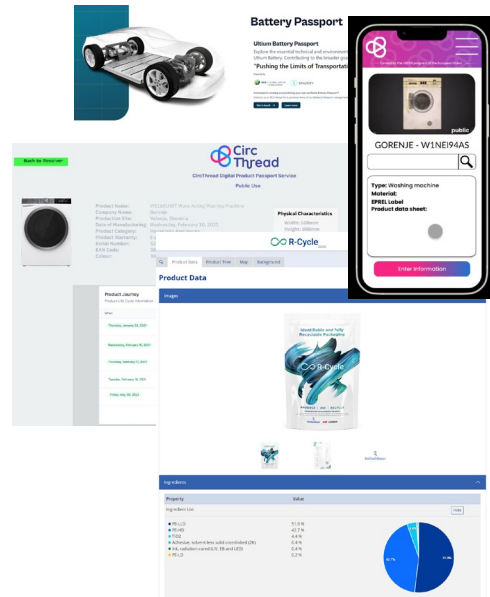
Components of the future Digital Product Passport system

Data carriers



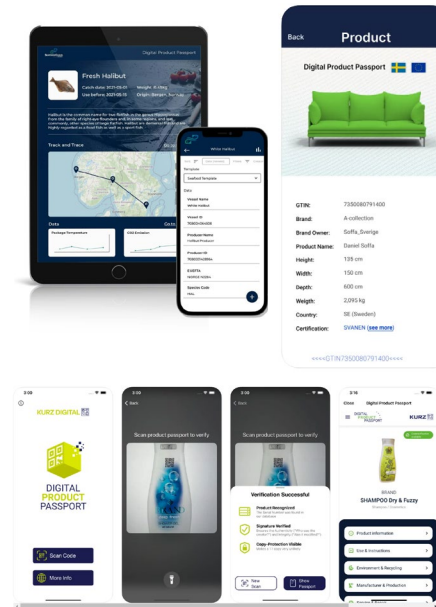
At model, batch, item level

Product info portal



With public info & controlled info via access rights

App services



To view/update DPP's + associated info services

Market conformity & claims verification

Info for checking counterfeit

Documentation for market surveillance

Background evidence for green claims

Data carrier check / Copy-proof data carrier

Product groups that will be legislated in delegated acts

Product groups listed in ESPR legislation & mentioned in EU consultation



Product groups listed in other EU regulations

Batteries (2026)



Construction products



Textiles (2024)



Potential other product groups include electrical and electronics, outcome pending further trilogues.

The market for high-value products is in motion in establishing DPPs

A DIGITAL PASSPORT FOR YOUR WATCH

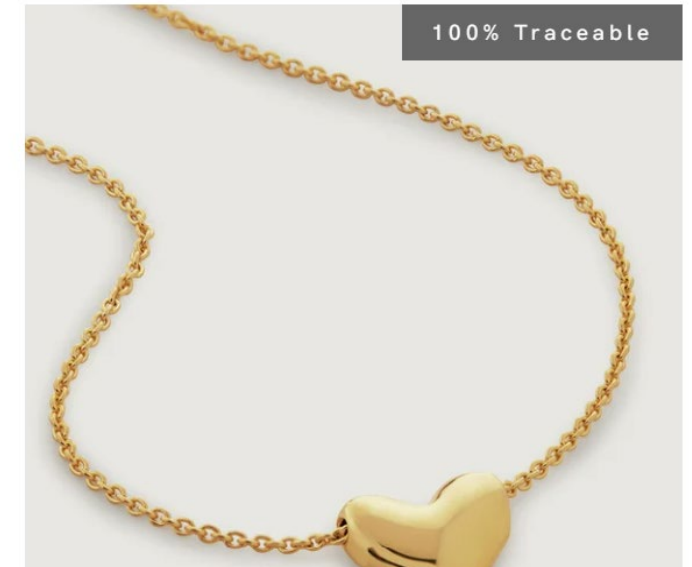
Each Breitling watch comes with its own NFT. This blockchain-backed proof of ownership protects your watch and unlocks a world of benefits.

[GET MY BREITLING NFT](#)

[PEOPLE](#) [PLANET](#) [PRODUCT](#) [GOALS](#)

Digital Product Passport

We're proud to present our first Digital Product Passport (DPP). This pilot initiative underscores our commitment to elevating transparency, championing sustainability and fostering a deeper connection with our conscious community. We have trialled this initiative on a number of our styles in our autumn/winter 2023 collection, including every design from our latest Nobody's Child x Happy Place by Fearn Cotton collaboration. Inside each piece you'll find a unique QR code on the care label. Simply scan it to open up a world of product detail, from fabric to factory. We also guide customers on how they can love their product for longer.



Product Passport

Our traceability programme allows you to trace the origin of your jewellery; from design, materials sou your doorstep.

You can access the digital passport from individual products, just look for the **Trace This Item** logo.

Heart Chain Necklace Adjustable 41-46cm/16-18'

Key challenges to create a universal DPP system

- Universal readability of product data carriers across product groups
- Integration with existing product information management systems
- Standardised services IT access to retrieve and provide DPP data
- Common and up-to-date definitions and semantics
- Multi-language support in DPP information for multi-country use
- Setting adequate rights and responsibilities for each economic actor

Standards will play a key role in establishing a universal, interoperable DPP system across product groups

CEN/CENELEC/ETSI DPP committee will kick-off at end of November to develop 8 standards for a universal DPP system, following EU commission standardisation request and work of SRAHG* in preparing the standardisation process.

Deadline set for adoption 31 December 2025 of the following harmonised standards:

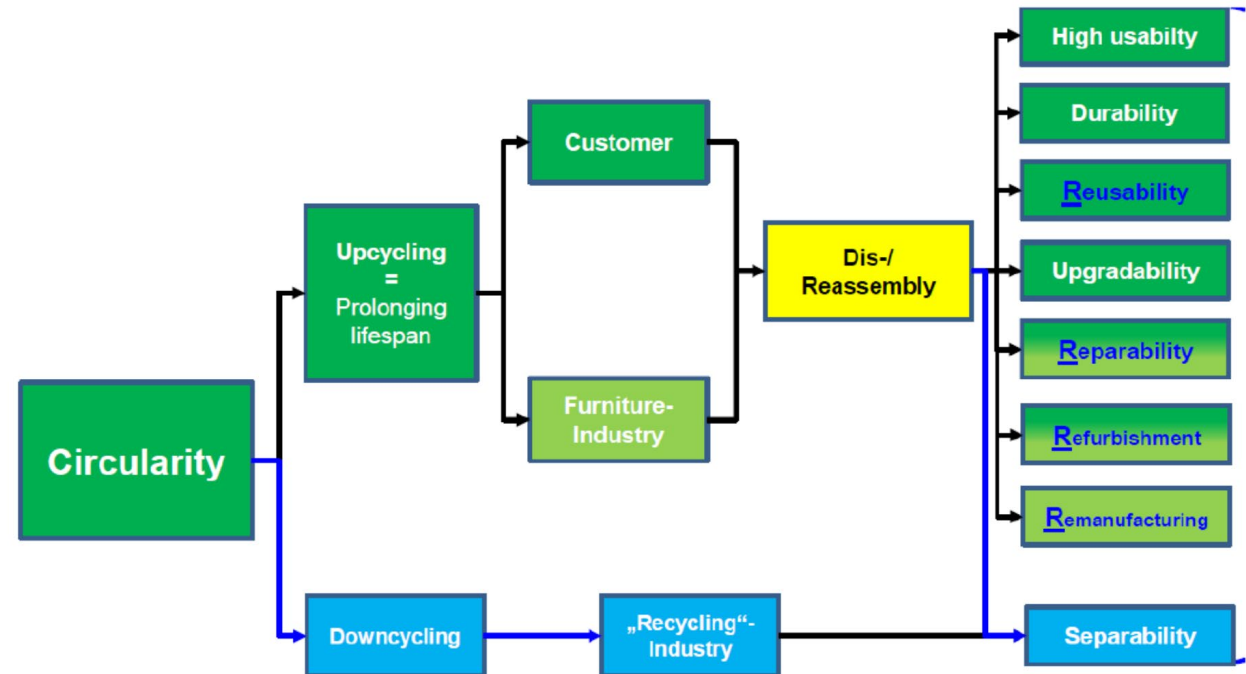
1. Unique identifiers
2. Data carriers and the links between physical and digital representation
3. Access rights management, information, system security, and business confidentiality
4. Interoperability (technical, semantic, organisation)
5. Data processing, data exchange protocols and data formats
6. Data storage, archiving, and data persistence
7. Data authentication, reliability, integrity
8. APIs for the DPP lifecycle management and searchability

*Standardisation Requests Ad-Hoc Group (SRAHG)

Specific circularity product group information/data standards for circularity will interlink with DPP

Standardisation committee CEN TC 207 (Furniture) and its WG 10 (Requirements and tools for furniture circularity) → working on standards for product aspects under article 5 of the ESPR

- **FprEN 17902 on evaluation method for dis/reassembly capability (2024)**



Thank you for your attention!

Rembrandt.Koppelaar@eco-wise.co.uk

Stay tuned!



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- trick-project.eu



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- company/trickproject/



The implementation of the TRICK traceability tool for the textile supply chain

Carla Fité Galan, UPC
Daniella Ferroni, Grassi

Rimini - 07/11/2023



These projects have received funding from the European Union's H2020 programme under Grant Agreement No. 958448 & 958352

TRICK - Project introduction

Product data **TR**aceability **I**nformation management by blo**CK**chains interoperability and open circular service marketplace

Funded by EC HORIZON 2020-CE-SC5-31-2020 call: “Develop, implement and assess a circular economy oriented product information management system for complex products from cradle to cradle”

One of only
2 out of 24 Proposals
approved by the
European Commission
in this funding call



Start date

1 May 2021



Duration

42 months



Funding

8 Mln



Grant Agreement

N° 958352

TRICK - Key Objectives

1

Circular Economy Roadmap

Based on stakeholders' requirements

2

Standardised Commercial Service

For traceability and transparency

3

Data Trustworthiness & Sharing

Through blockchain-based network

4

Open Marketplace

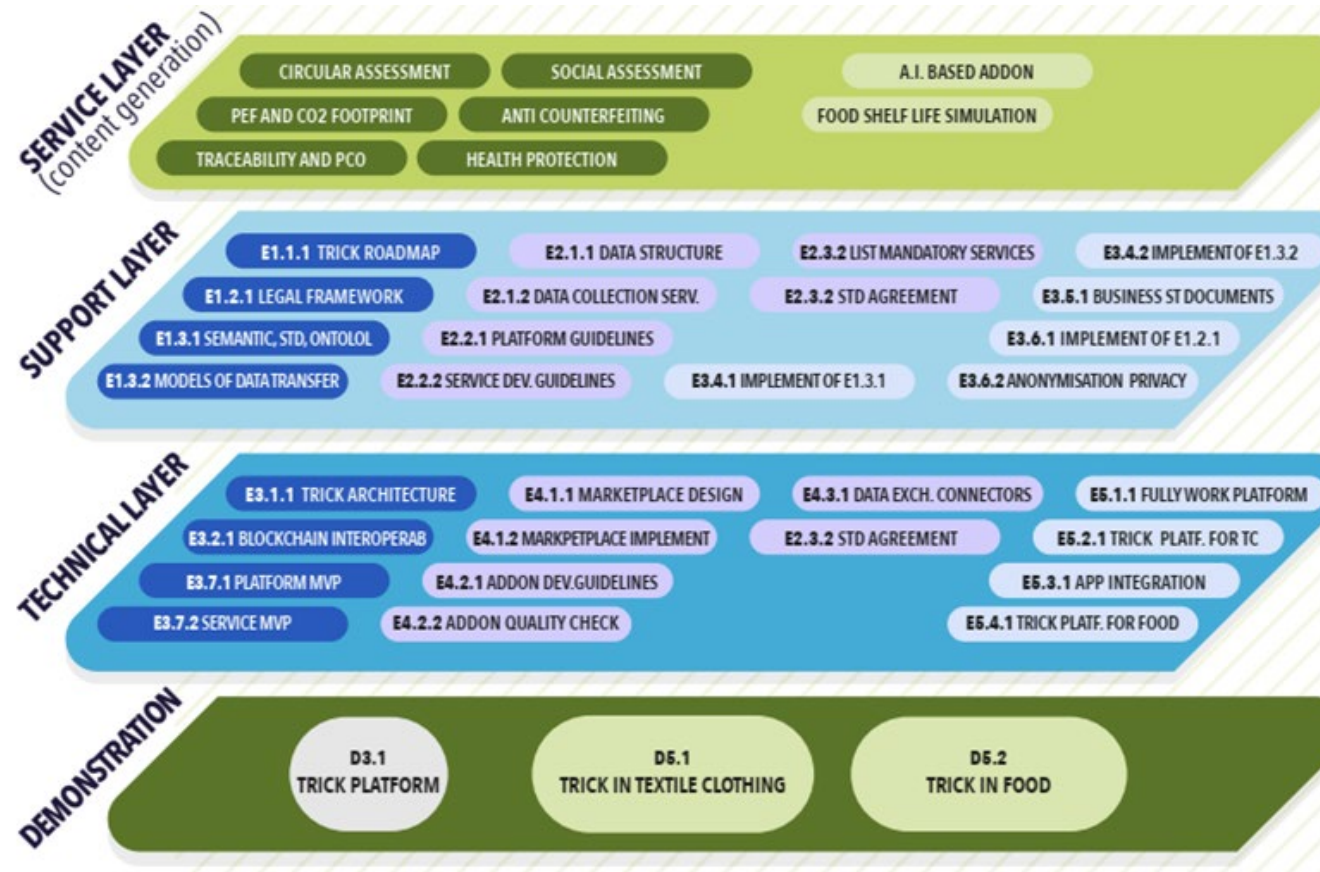
With add-ons for certified solutions

5

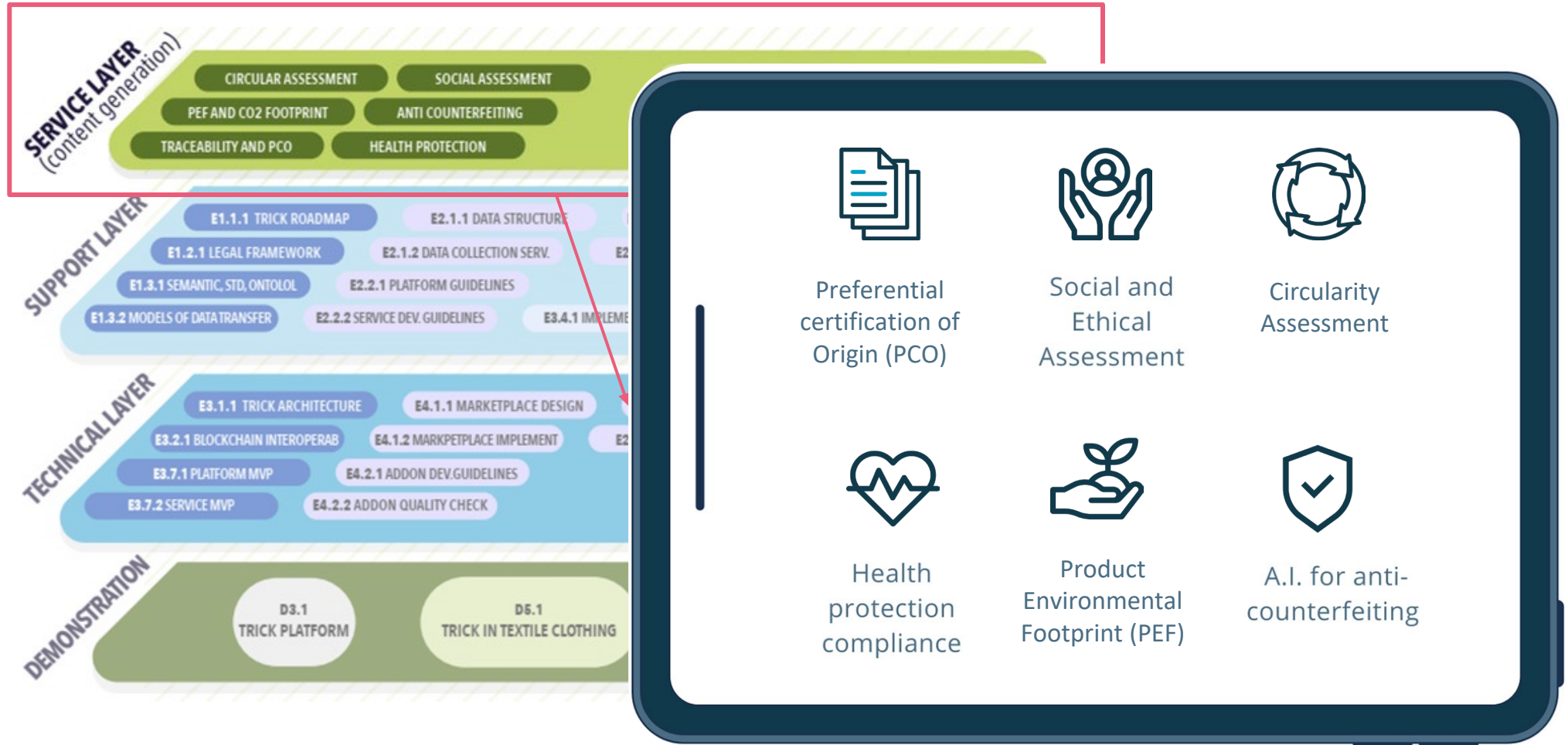
Demonstration & Replication

For industry-wide adoption of TRICK solutions

TRICK - Main results



TRICK - Main results



TRICK - Main results



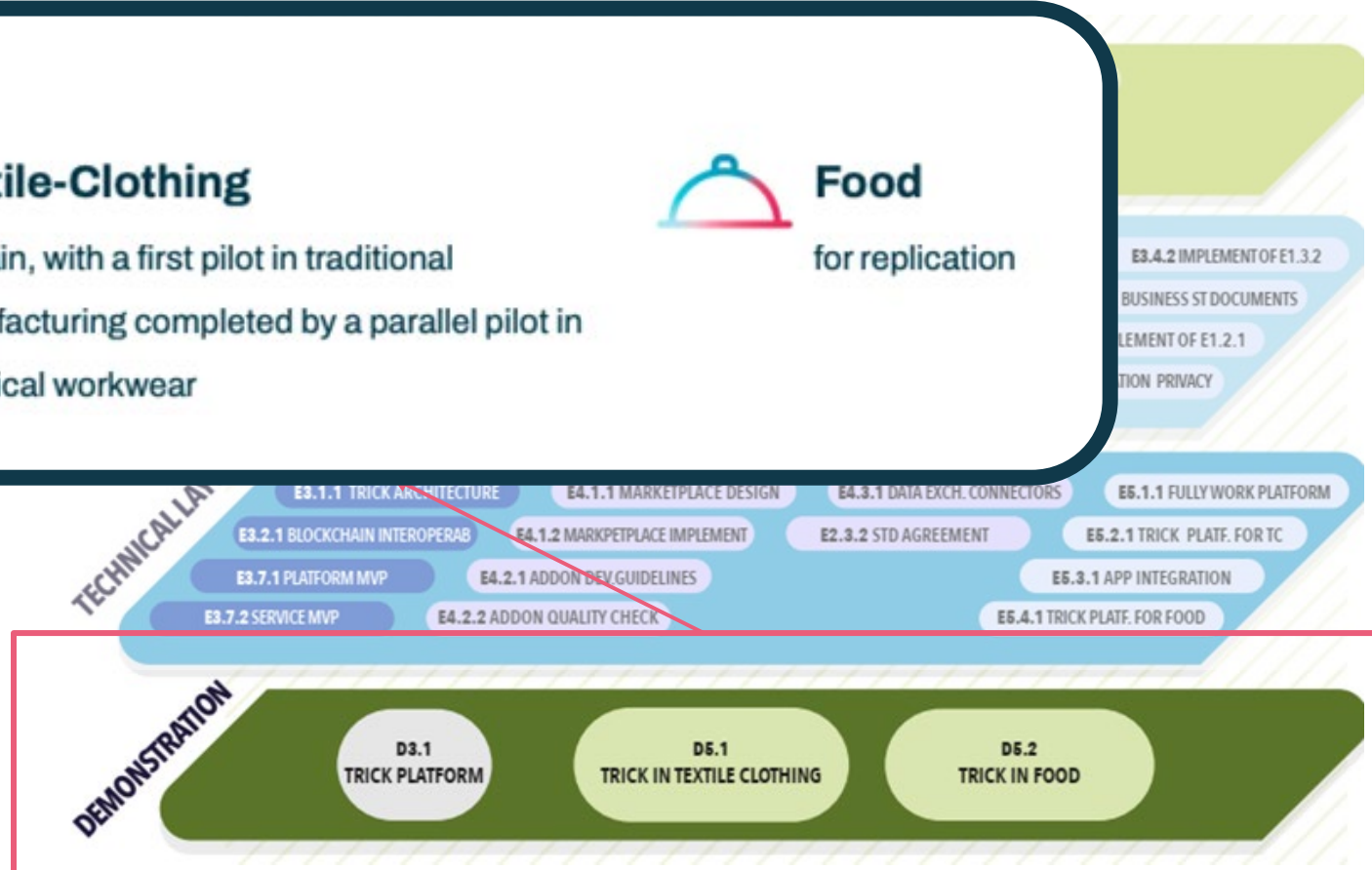
Textile-Clothing

as main, with a first pilot in traditional manufacturing completed by a parallel pilot in technical workwear

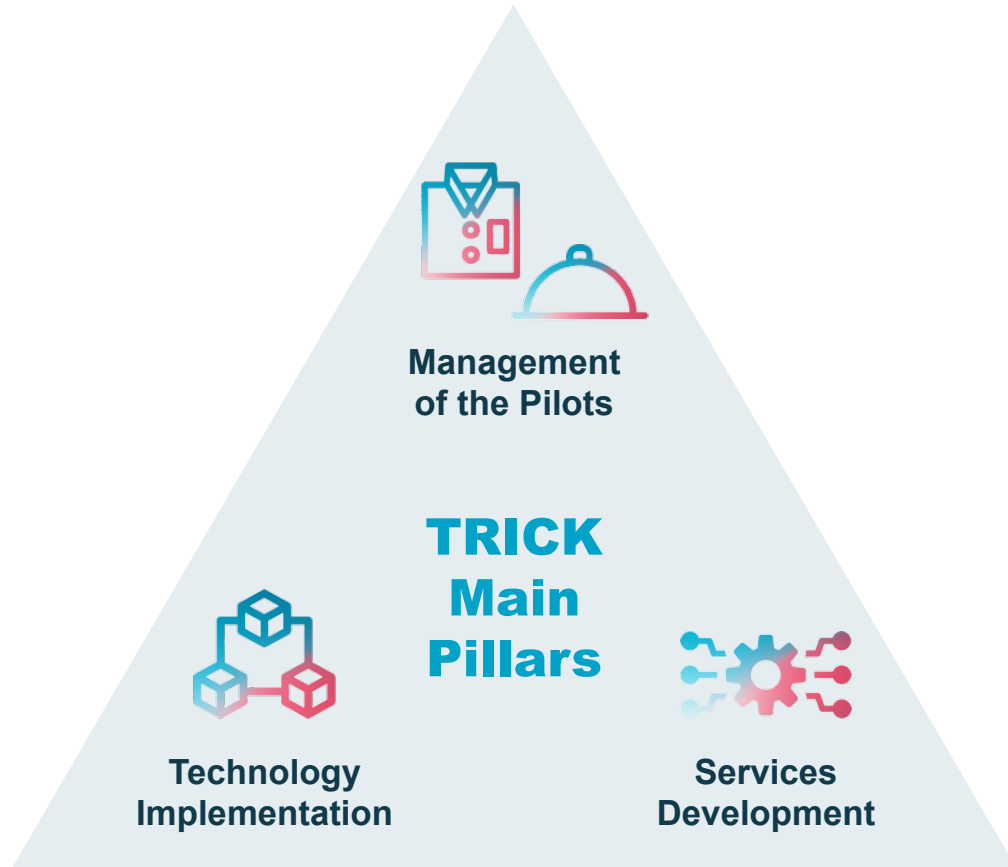


Food

for replication



TRICK - Key milestones



Management of the Pilots

- Textile Pilot
 - Fashion Pilot
 - Technical Pilot
- Food Pilot



Services Testing & Deployment

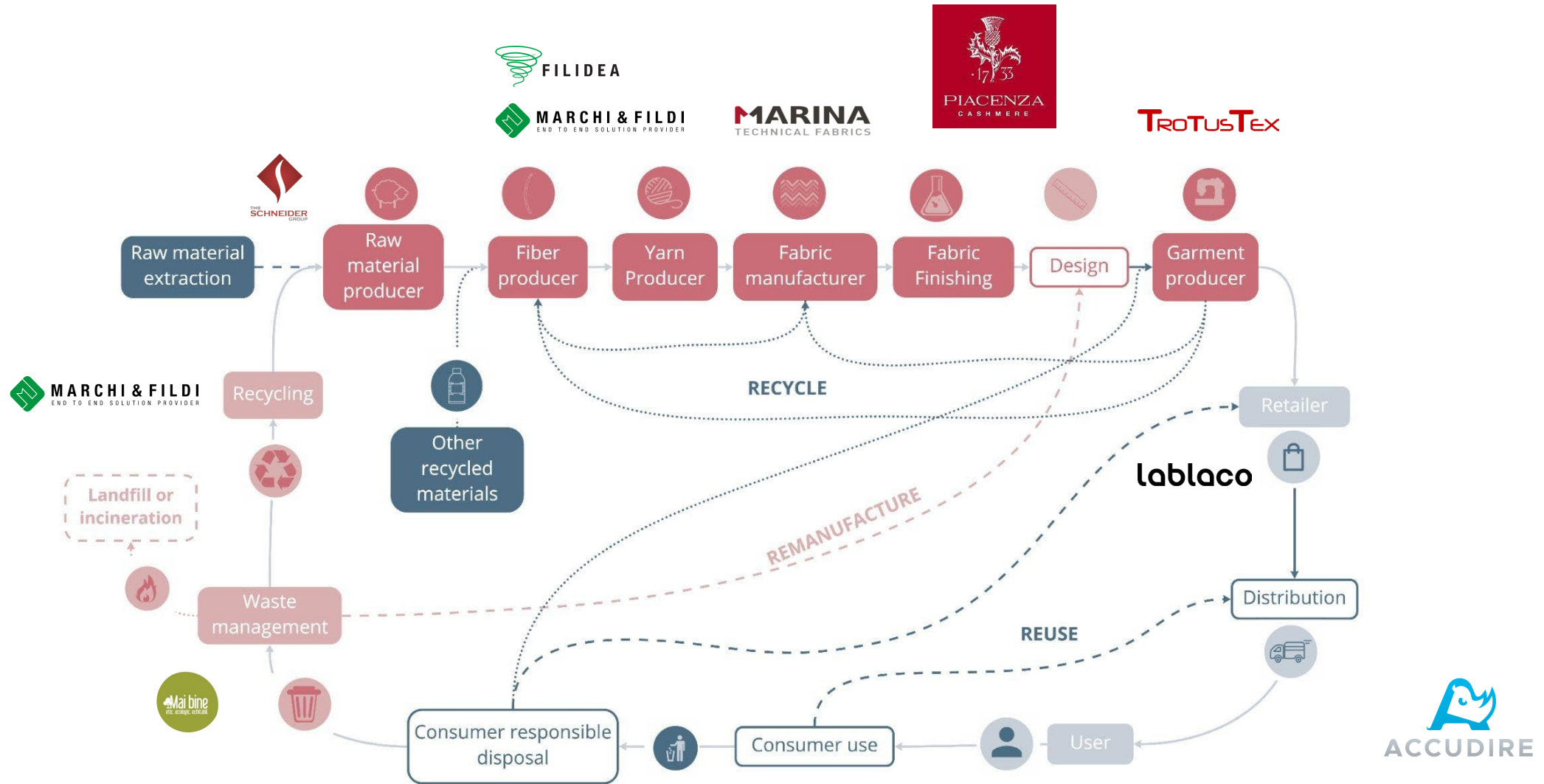
- Preferential Certificate of Origin (PCO)
- Circularity Assessment
- Product Environmental Footprint (PEF)
- Social and Ethical Assessment
- Health Protection Compliance
- A.I. for Anti-counterfeiting



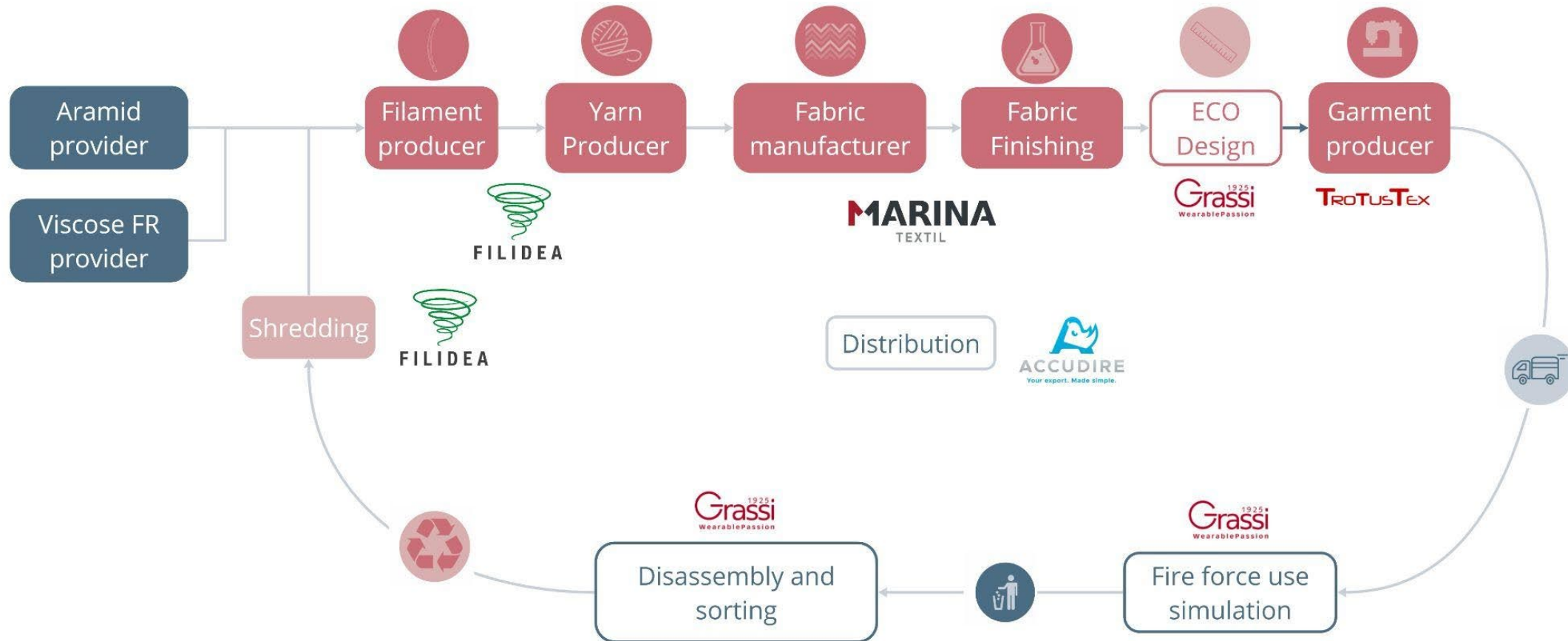
Technology Implementation

- IT Architecture
- Blockchain
- B2B Marketplace

TRICK Pilot Testing – Circular Approach



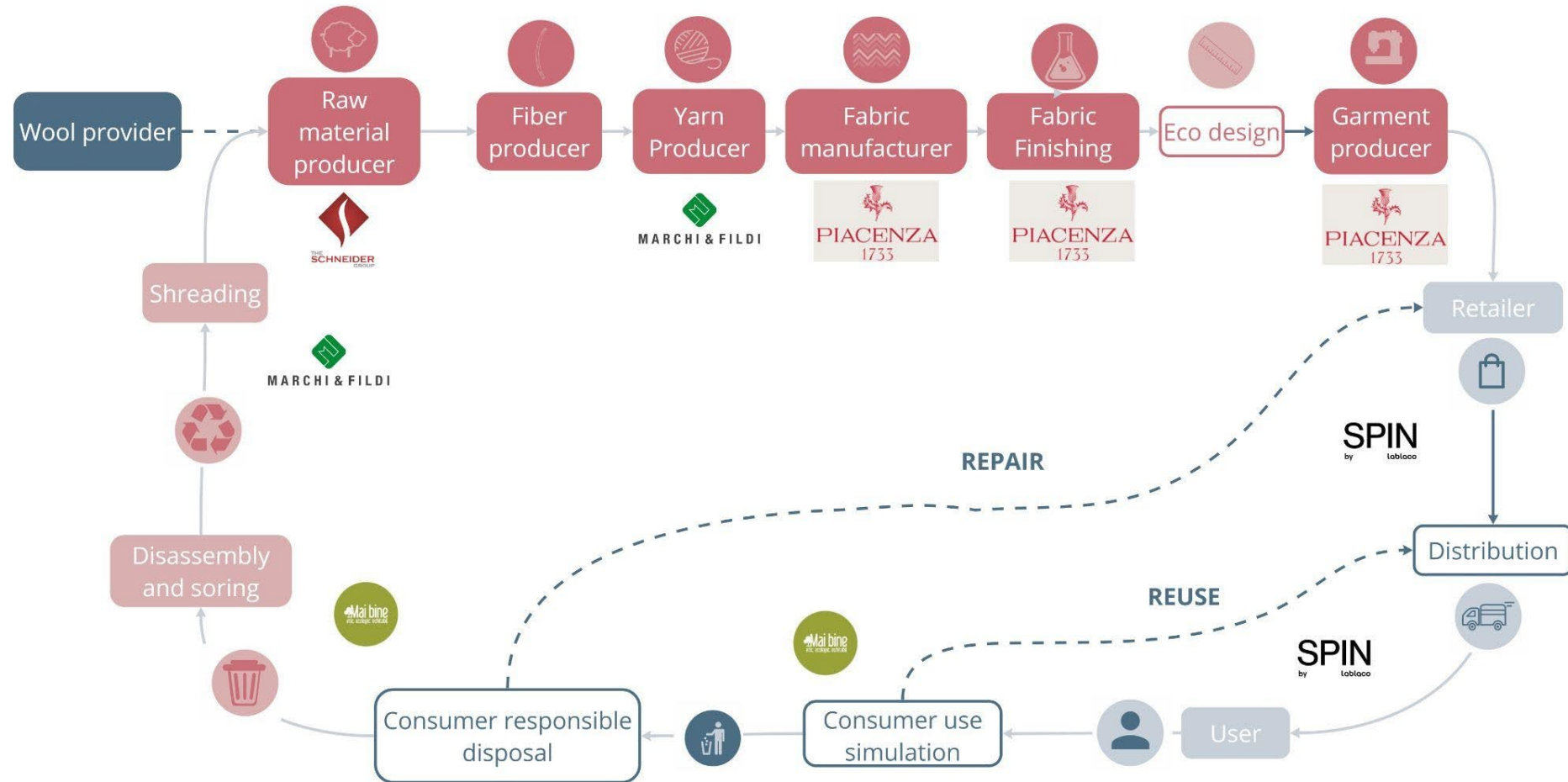
TRICK Pilot Testing – Technical pilot



TRICK Pilot Testing – Technical pilot

Product	Description
Yarn	Blended yarn composed of 50% m-aramid - 50% viscose FR
Fabric	One single fabric with a weight between 250-280 g/m2 . The virgin fabric will be over-dyed if feasible by MarinaTextile. The recycled one won't be over-dyed. The recycled fibers won't be dyed and the virgin ones will.
Garment	Flame retardant and electric arc protection uniform . The fabrics will have to comply with the standards UN-EN ISO 11612 (Protection against heat and flame) and EN 61482-1-1 and EN 61482-1-2 (both standards for protection against electric arc).
Recycled fabric	MARINATEXTIL will try to use the recycled yarn on the weft and the warp. But in case there are mechanical performance issues then they will use the recycled yarn just weft.

TRICK Pilot Testing – Fashion pilot



TRICK Pilot Testing – Fashion pilot

Product	Description
Yarn	100% wool, raw material provided by Schneider, spinning provided by Marchi & Fildi.
Fabric	Catalog article - 100% wool. Fabric weight around 500gr/m2. Coloring: dark blue (still to be defined in detail)
Garment	Coat, classic style without interlining
Recycled fabric	Same item, % of recycled raw material to be optimized on the testing phases.

TRICK platform - Traceability interface

TRICK - Textile Sector

Product details

Article
Jacket Mickey Mouse

Unique Product ID
3434-yuyrr

Internal ID
754865FRE

Description
Color Black
Size Large

Composition

- Garment
Garment 1
- Fabric
- Yarn
- Fiber

Garment detail

created by : admin

Name
Garment 1

Fabric
Fabric 1 Fabric 2

Non Textile Part
Button Zipper

Fabric detail

created by : admin

Name
Fabric 1

Yarn
Yarn Composite 1

Processing List fabric
Dyeing Finishing

In this slide, you can see where to insert the data about the product. In particular, it's highlighted the link between the product and the garments that composite it.

On the left, you can see all the menu items. They are needed to insert more specific info about the product itself or about the other elements (garments, fabrics, yarns, fibers).

TRICK Pilot Testing – data collection

Traceability (Core service)

- Organizational data
- Product ID per lots
- Certifications and self-assertions
- Origin
- Manufacturing operation and events occurred to the lots
- Notifications
- Logistics documentation



Preferential Certificate of Origin (PCO)

- Shipping documentation, based on traceability data collected for the invoiced lot(s) such as:
 - > Invoices data
 - > Certification of origin
 - > Exporter declaration
 - > Documentation from the suppliers
 - > Transport documentation

TRICK Pilot Testing – data collection



Circularity Assessment

- Amount of reused, recycled and renewable sources
- Efficiency of recycling process
- Production losses
- Average lifetime of a product.



Product Environmental Footprint (PEF)

- Product and processes' primary data, with related documentation needed by experts to perform a PEF study on a product

TRICK Pilot Testing – data collection



Social and Ethical Assessment

- Describes 38 indicators that need to be supported by data as required by the SA8000 standard



Health Protection Compliance

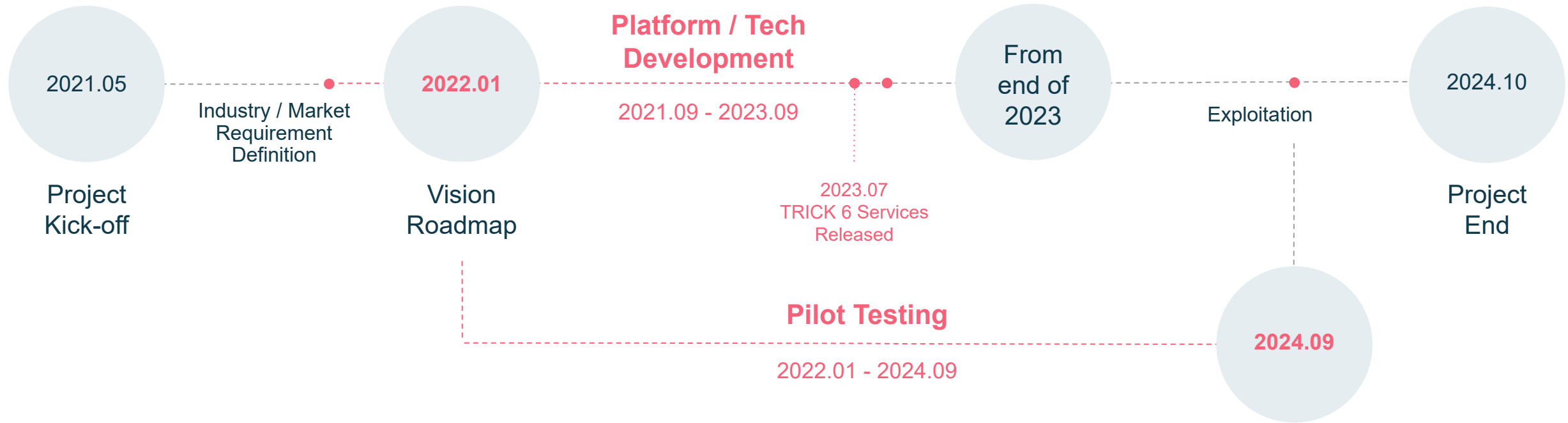
- Textile composition
- Processes performed
- Chemicals used



A.I. for Anti-counterfeiting

- All industrial accounting cycles concerning Piacenza textiles of the last 10 years.

TRICK - Key milestones



SINCE 1925
LEADING SUSTAINABLE
INNOVATION
IN TECHNICAL GARMENTS
WITH **STYLE, COMFORT** AND
PASSION



Internationalisation



Sustainability



Innovation

TRICK Technical pilot - Grassi



1.420

EMPLOYEES

8

PRODUCTION PLANTS

1,5 mln

PRODUCED FABRIC/YEAR

2 mln

MANUFACTURED GARMENTS/YEAR



TRICK Technical pilot - Grassi

1925
Grassi
WearablePassion



WORKWEAR



FIRE



FASHION & SPORTSWEAR



MILITARY



BALLISTIC



LAW ENFORCEMENT

TRICK Technical pilot - Grassi



Sustainable development based on Planet, People and Profit



Product

ISO 14021
Recycling row material



ISO 14067
Carbon Foot Print

GR10K

PEF
Product Environmental Footprint

Packaging



Process

ISO 14001
Environmental
Management System



Sustainable Mobility



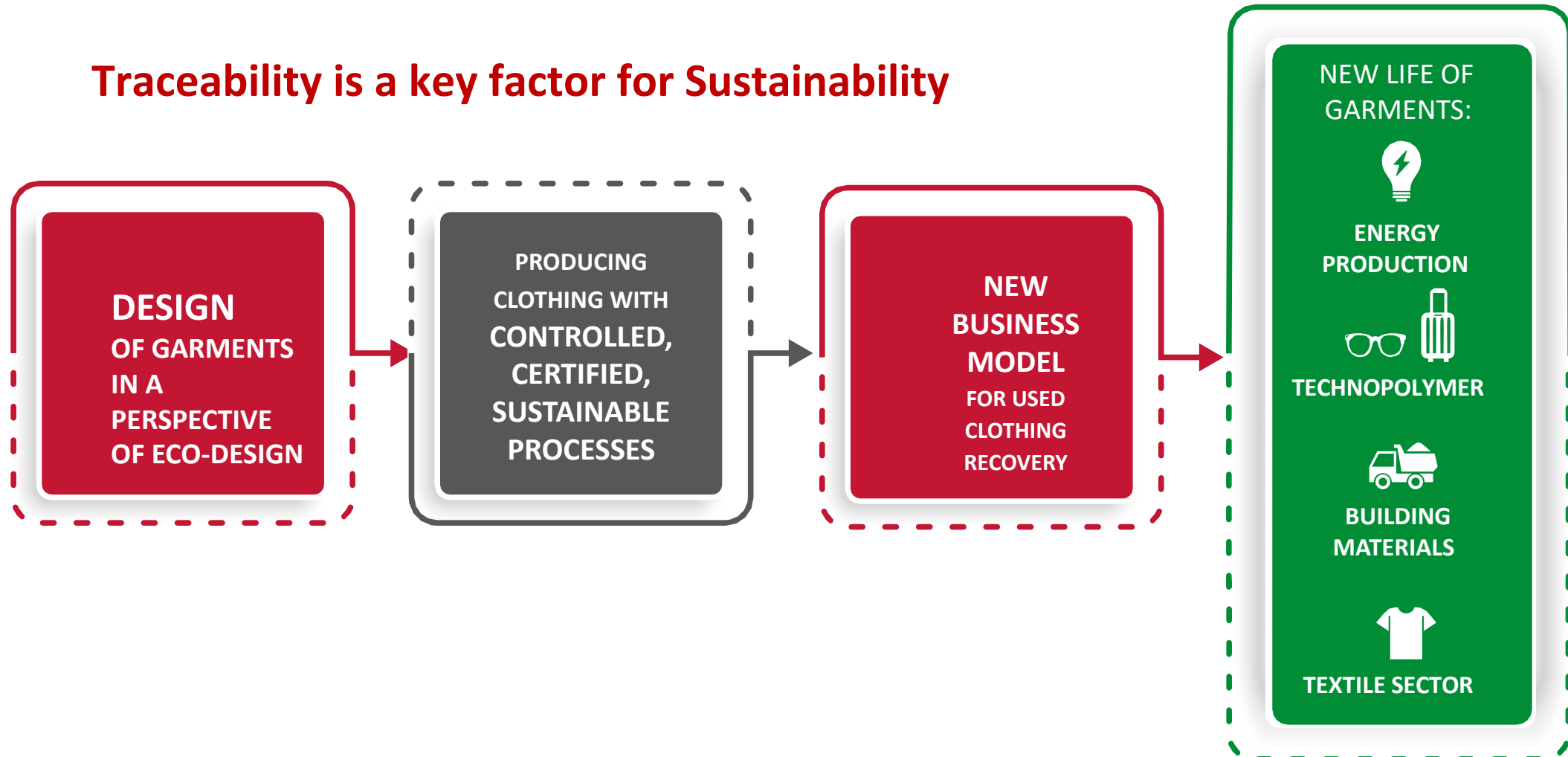
Social

SA 8000
Social Responsibility
Management System



ISO 45001
Safety Management
System

Traceability is a key factor for Sustainability



“Key actors in the industry have identified **interoperable** and **scalable traceability** and **transparency** of the value chain, as **crucial enablers** of more responsible production and consumption patterns, in support of Sustainable Development.”

United Nations – Economic and Social Council

New rules & legislation

EU Strategy for Sustainable Textiles – European Commission

Key aspects of the upcoming regulations (Bonanni, L., 2023)

- Supply chain mapping
- **Traceability**
- Independent verification
- Continuous improvement



“An assessment of **232 active ecolabels** in the EU also examined their verification and certification aspects and concluded that almost **half of the labels’** verification was either **weak or not carried out**.

Moreover, **consumers are not aware** of the **distinction** between labels governed by third party certification schemes and those based on “**self-certifications**”, i.e. **not verified by any third party**. “

DIRECTIVE OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL on substantiation and communication of explicit environmental claims (Green Claims Directive) – March 2023



Regulatory context



Source: Dirk Vantyghem, Euratex: Opening Speeches, ITECHSTYLE SUMMIT & ETP ANNUAL CONFERENCE, Porto, 10-12/05/2023

TRICK solution advantages

- ✓ Compliance with future European Legislations
- ✓ Guide for data collection in whole supply chain
- ✓ Validation and control of collected data
- ✓ Selection of innovative suppliers
- ✓ Increase of competitiveness
- ✓ **Guarantee tool** for the consumers



TRANSPORT



MATERIALS



CERTIFICATIONS



PERFORMANCE

Thank you for your attention!

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Stay tuned!



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- trick-project.eu



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- company/trickproject/



IMPLEMENTATION OF DPP FOR HOUSEHOLD APPLIANCES

The CircThread Italian pilot

Giulia Di Mari **ERION Compliance Organization**



Rimini - 07/11/2023



These projects have received funding from the European Union's H2020 programme under Grant Agreement No. 958448 & 958352

Erion Compliance Organization

Erion is the leading Italian Producer Responsibility Organization for **the management of e-waste, textiles, and to prevent littering of tobacco products.**

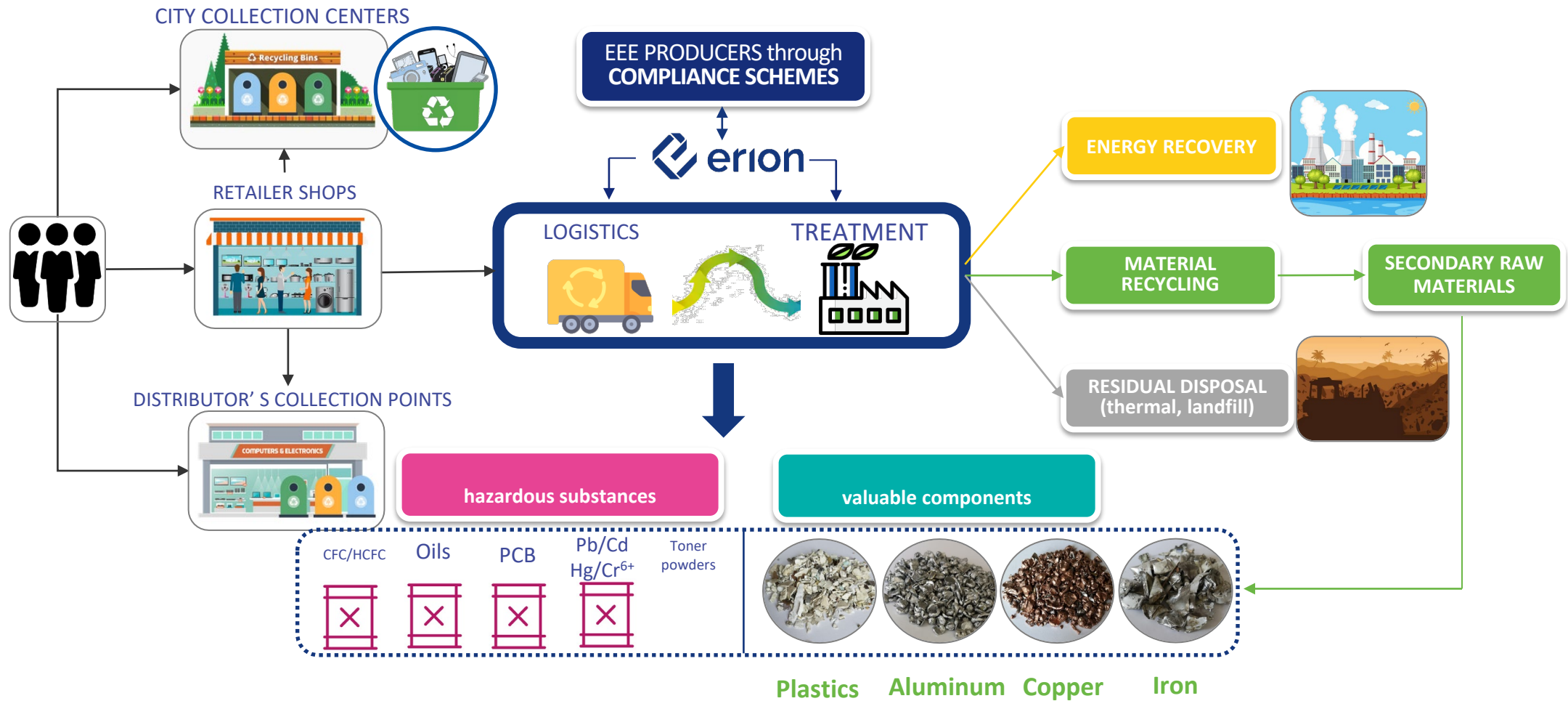
Type of organization: industrial partner | not for profit

Size: ~ 70 employees | located in Milan, but operational in the entire country

Key activities: waste management | development of innovation services for EEE producers | participation to research activities | circular economy enabler



Erion Compliance Organization



CircThread: sustainable appliances

The objective is to interconnect the information along the life of a product, from design to retirement, so that it can be easily accessed and shared.

This will allow all the actors along the appliances value chain, recyclers included, to make decisions at all stages to shift to a circular economy.

To achieve this, we want to swiftly increase appliance lifespan, repairability and reuse. And we want products to be **properly recycled** when they are no longer repairable.



Italian Pilot

Six Partners involved

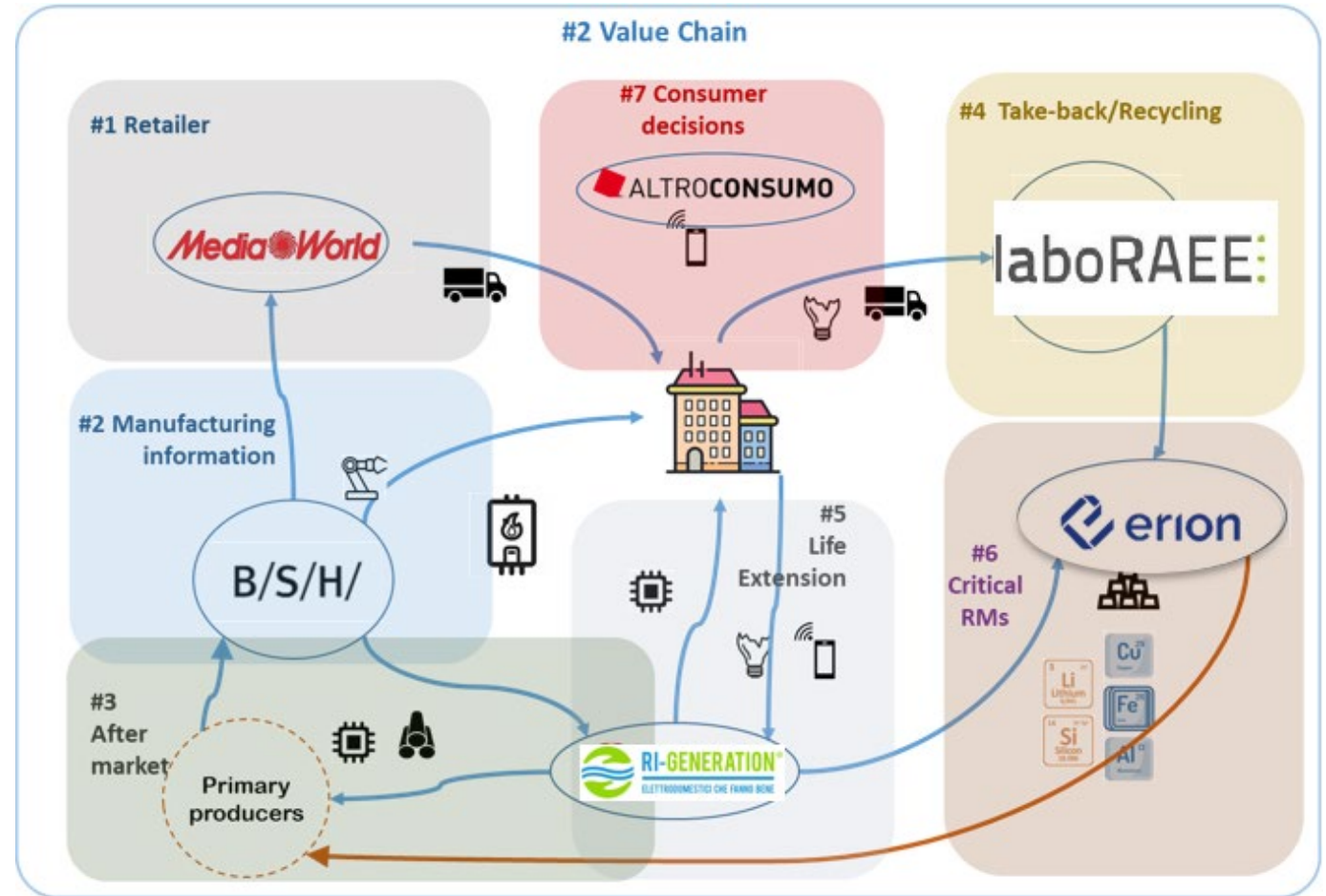
Start: nov-2023

End: feb-2025

Area: Milan Metropolitan Area

Four use cases:

- 1 Product Status Tracking & Tracing
- 4 Product end-of-use recommendations
- 6 Critical Raw Materials and Chemical evaluation
- 7 Consumer purchasing and use decisions

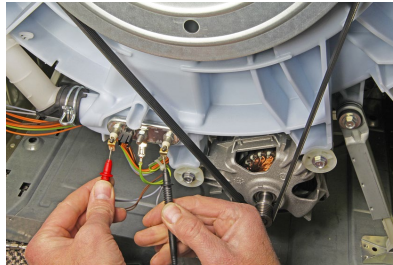
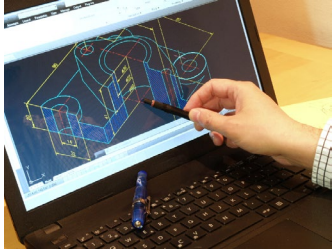


Our programme

- Manufacturer will provide 25 new dishwashers with a discounted price
- Consumers' association will find families who need to replace their dishwashers
- Retailer will sell and install the new appliances to these families and collect the old ones
- Old dishwashers will be divided into 2 groups, depending on whether they are still repairable or not
- If the appliances' conditions are good, they will be sent to the refurbishing, while the other will be recycled
- PRO will manage the whole process



CircThread seeks to enable the Digital Circular Economy



Make information exchanges possible for decision support:

- From design to manufacturing
- From transit/retail to OEM
- From OEM to retailers
- From OEM to users
- From OEM to users/repair
- From users/repair to OEM
- From repair to users
- From users to collectors
- From OEM to collectors / recyclers
- From collectors to recyclers

Information Exchange

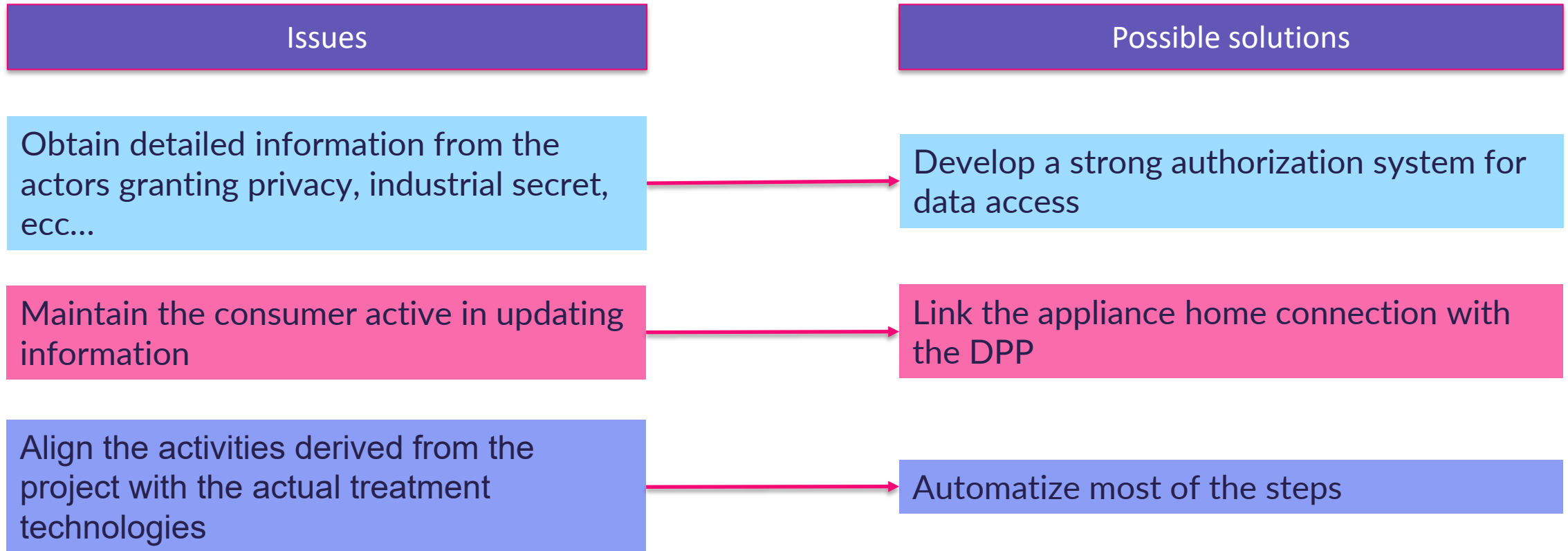
Each of the actors involved, especially the consumers, will share information through the CircThread Platform, developed by IT project partners, both for old and new appliances.

According to the use cases which we will test within the pilot, **there will get access** to:

- Dishwasher tracking and the updated status of the product (“received by retailer”, “installed”, ecc);
- Simplified Bill of Materials;
- Product end of use recommendations
- Product recyclability declaration
- Product disassembly manual
- List of product priority components with critical raw materials
- List of components with special treatment need
- REACH & RoHS compliance documents
- ecc...



The actual challenges



Thank you for your attention!

Erion Compliance Organization
Team Strategic Development & Innovation

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Stay tuned!



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Lessons Learned from the Sector for an Effective Digital Product Passport

Giulia Zilla, *Policy Manager, Energy & Environment*
APPLiA Europe

Rimini - 07/11/2023



These projects have received funding from the European Union's H2020 programme under Grant Agreement No. 958448 & 958352

Table of contents



1. Introduction
2. Current legislation on home appliances and lesson learnt for the DPP
3. Key ingredients for an effective DPP
4. Conclusion

Chapter 1 - Introduction



Few words about APPLiA

Our membership

of 25 global leaders



Arçelik

 **ARISTON**
GROUP

B/S/H/

 **DAIKIN**

DeLonghi
Better Everyday

dyson

 **Electrolux**

gorenje

 **GROUPE**
ATLANTIC

Haier Europe

iRobot

 **LG**

LIEBHERR

 **Midea**

Miele

 **P&G**

PHILIPS

Panasonic

SAMSUNG


GROUPE
SEB

 **smeg**

Versuni

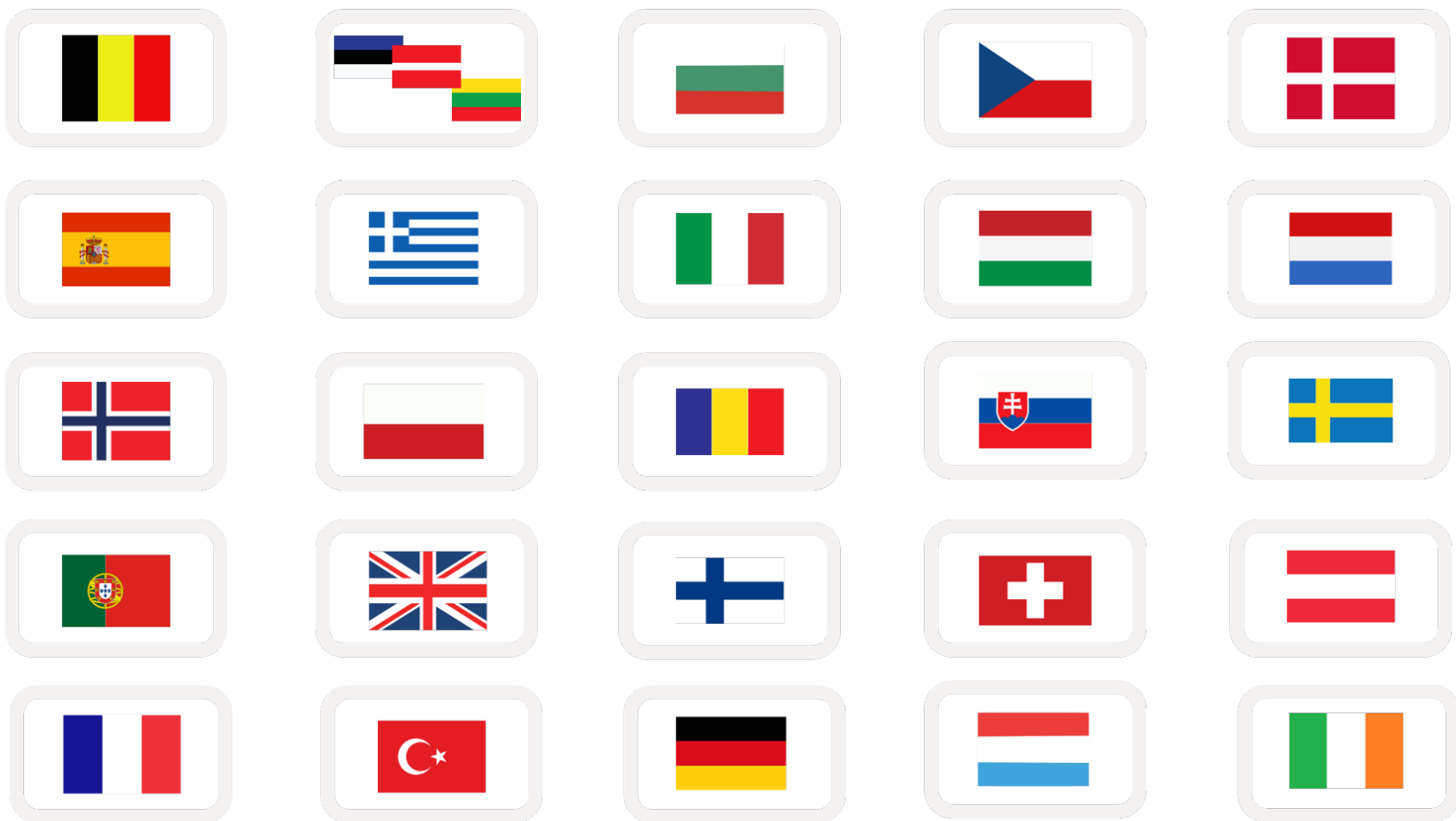
VESTEL

 **VORWERK**

Whirlpool
CORPORATION

Our network

of 27 national associations



Our products

home comfort

- towel heaters
- air-to-air heat pumps
- air conditioners
- local space heaters
- water heaters



Our products

large appliances

- refrigerators and freezers
- washing machines
- hobs
- tumble dryers
- washer dryers
- range hoods
- dishwashers
- ovens



Our products

small appliances

- blenders
- mixers
- irons
- kettles
- vacuum cleaners
- coffee machines
- microwaves
- electric toothbrushes
- kitchen robots
- electric epilators



**Nearly 1 million
people employed
directly & indirectly
in Europe**



**EUR 1.4 bn
invested in R&D**



**EUR 67 bn
direct & indirect
value added to GDP**



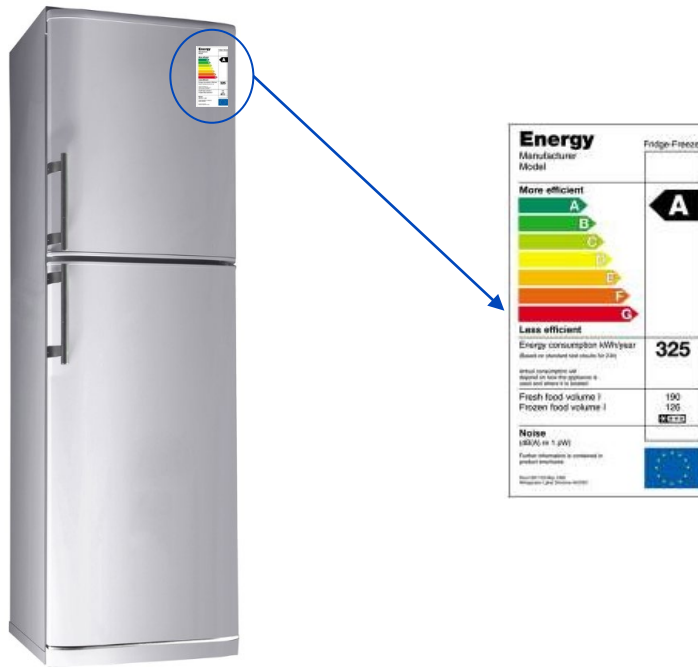
Chapter 2 - Regulatory history of home appliances



The evolution of the ecodesign & energy
label and lessons learnt



Directive for mandatory energy label

For household appliances in 1992



Energy Manufacturer Model		Fridge-Freezer
More efficient		
A		
B		
C		
D		
E		
F		
G		
Less efficient		
Energy consumption kWh/year <small>(Based on standard test results for 24h)</small>		325
<small>actual consumption will depend on how the appliance is used and on the climate</small>		
Fresh food volume (l)		100
Frozen food volume (l)		120
Noise <small>WdB in 1 (W)</small>		44dB
<small>Further information is contained in product literature</small>		
<small>European Commission (2002)</small>		

In 1992 and 1998 - First efficiency requirements for boilers & refrigerators

In 1992 - First Energy Label Directive

In 1995 - First implementing directive on Refrigerators, followed by Washing Machines, Dishwashers, Tumble Dryers, and so on

The Unilateral Industry Commitments

Paving the way to Ecodesign



From 1997
to 2003



Summary of CECED
Unilateral Industrial
Commitments



Voluntary Agreements Index

	Summary	Protocol
1997		
✓ Voluntary commitment on reducing energy consumption of domestic washing machines	4	21
1999		
✓ Voluntary commitment on reducing standing losses of domestic electric storage water heaters	6	29
✓ Voluntary commitment on reducing energy consumption of household dishwashers	8	45
2000		
✓ Agreement about the internal verification procedure	9	57
2001		
✓ Agreement on a common basis for noise declaration for large appliances	10	63
✓ Commitment on maximum load declaration	11	65
2002		
✓ Agreement on a common basis for noise declaration for small appliances	10	63
✓ Second voluntary commitment on reducing energy consumption of domestic washing machines	12	67
✓ Voluntary commitment on reducing energy consumption of household refrigerators, freezers and their combinations	13	79
✓ Code of Conduct for A++ / A++ declaration	14	101
2003		
✓ Energy declaration regarding washing machines	15	103
✓ Commitment on maximum load declaration Dishwashers	16	105
National Voluntary Agreements		
Convention lave vaisselle (Dishwasher agreement), GIFAM, 1996	17	107
Full Protocols		
Index of the full protocols	19	

June 2004

31.10.2009

EN

Official Journal of the European Union

L 285/10

DIRECTIVE 2009/125/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL

of 21 October 2009

establishing a framework for the setting of ecodesign requirements for energy-related products

(recast)

(Text with EEA relevance)

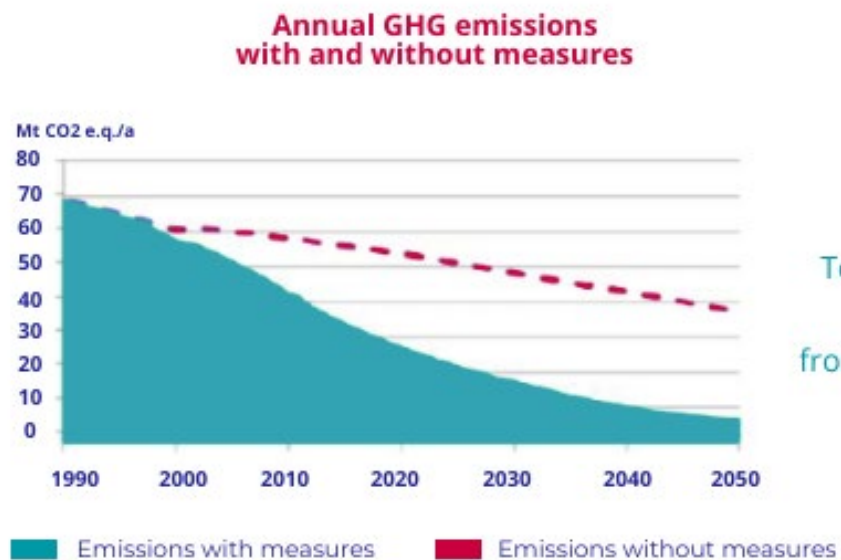
THE EUROPEAN PARLIAMENT AND THE COUNCIL OF THE EUROPEAN UNION,
Having regard to the Treaty establishing the European Community, and in particular Article 95 thereof,
Having regard to the proposal from the Commission,
Having regard to the opinion of the European Economic and Social Committee ⁽¹⁾,
Acting in accordance with the procedure laid down in Article 251 of the Treaty ⁽²⁾,
Whereas:

In force
2009



Energy-efficient appliances contribution

of freezers and refrigerators

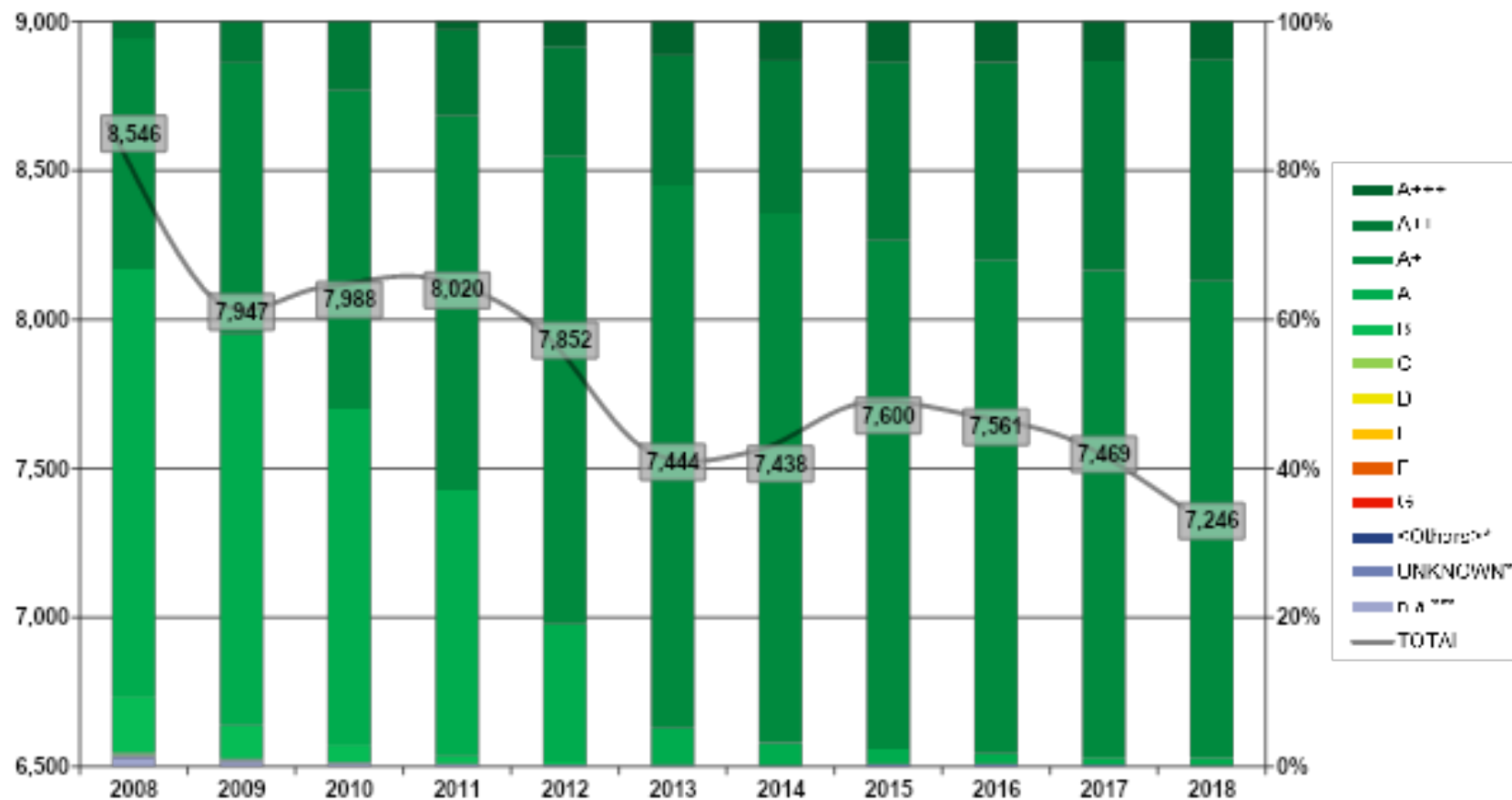


Total GHG emissions
for refrigerating
decreased
from 70Mt to 28 Mt CO2
in 30 years



Energy-efficient appliances contribution

Evolution of the energy label for refrigerators

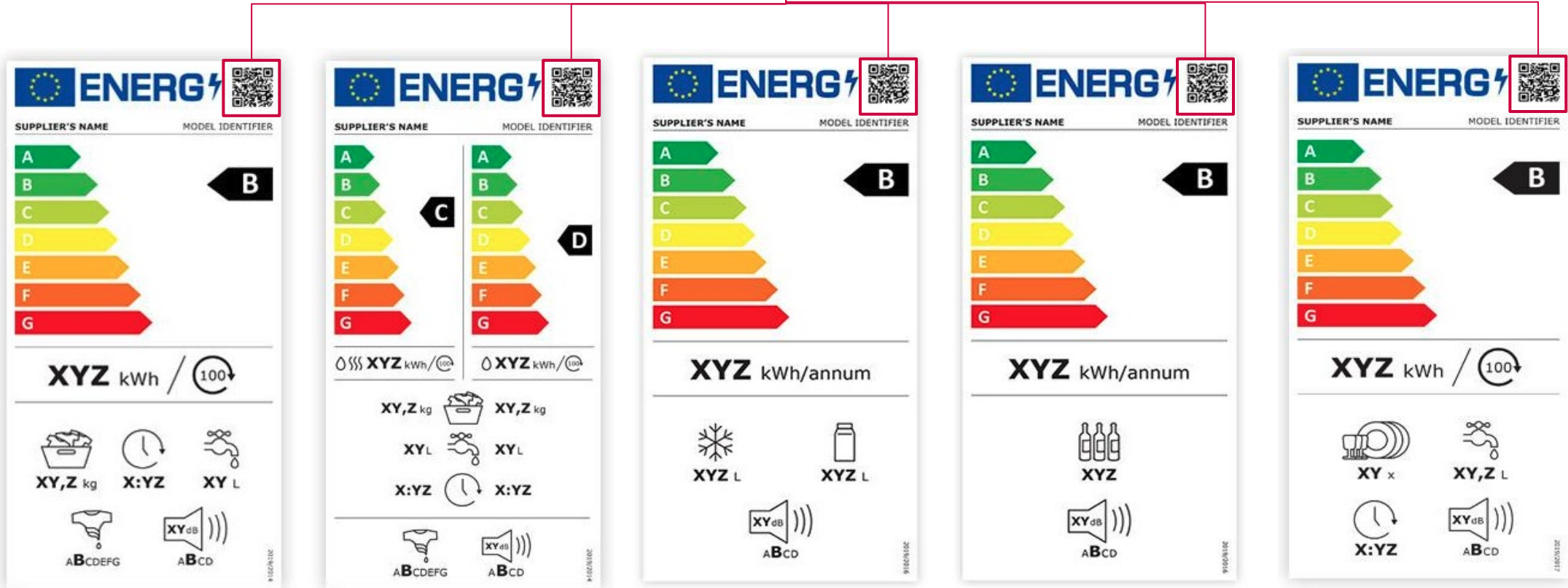


Energy-efficient appliances contribution

New generation of Energy Labels



Data carrier & QR CODE

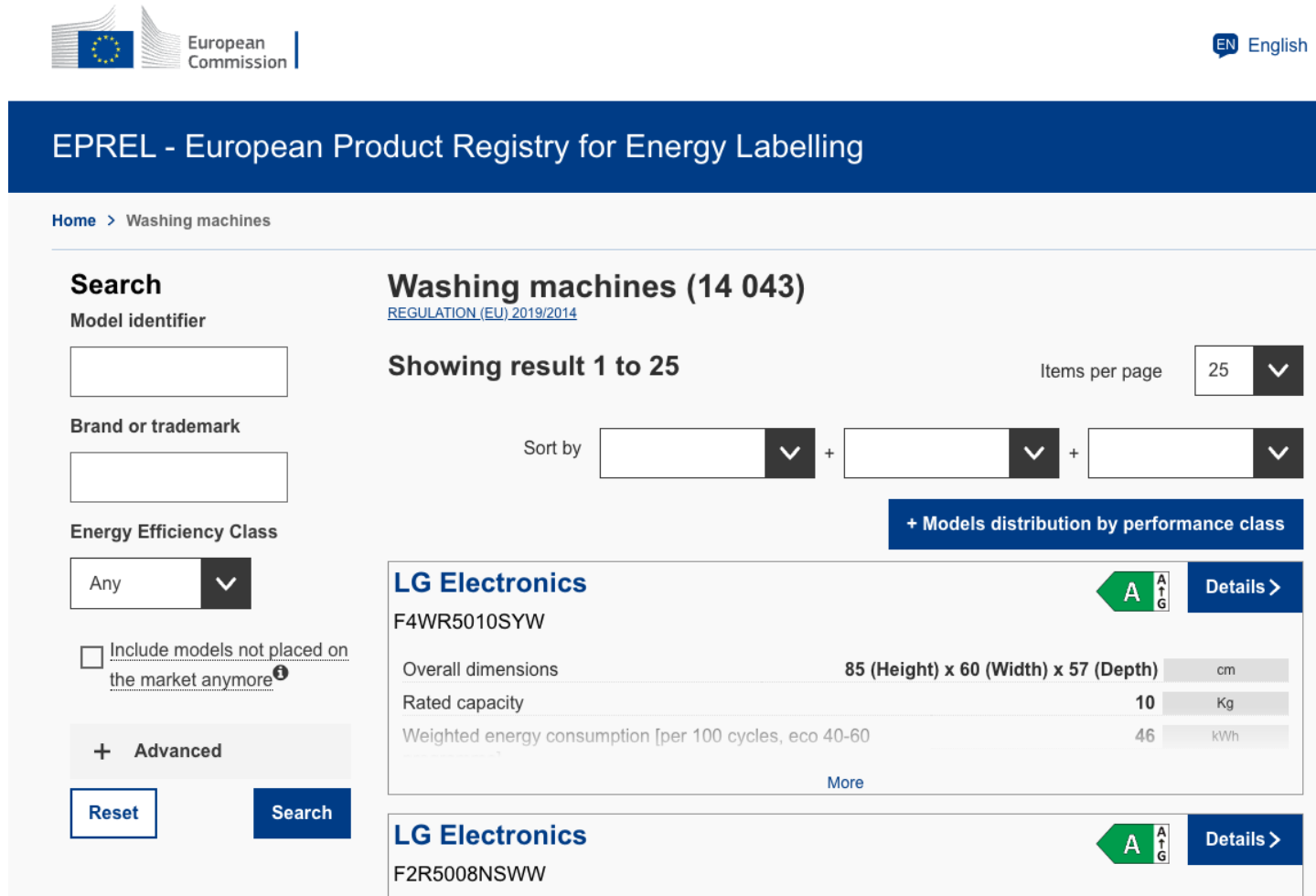


EPREL

The first EU product database

EPREL in a nutshell:

- It is a system managed by the EU Commission (see [website](#)).
- It applies at model level.
- It is product characteristic as it refers to a product specific delegated act (example on the right is the energy label for washing machines (EU)2019/2014).
- It holds a public part for all users and a compliance part accessible only by Market Surveillance Authorities and the EU Commission.
- It requires updates and constant maintenance from both manufacturers and Commission sides.



The image shows a screenshot of the EPREL (European Product Registry for Energy Labelling) website. At the top, there is a blue header with the EPREL logo and the text "The first EU product database". Below the header, there is a navigation bar with the European Commission logo and the text "European Commission". The main content area is titled "EPREL - European Product Registry for Energy Labelling". It features a search section on the left with fields for "Model identifier", "Brand or trademark", and "Energy Efficiency Class". There are also checkboxes for "Include models not placed on the market anymore" and "Advanced" search options. The right section displays search results for "Washing machines (14 043)" under the regulation (EU) 2019/2014. It shows "Showing result 1 to 25" and "Items per page 25". A table lists product details for LG Electronics models, including overall dimensions, rated capacity, and weighted energy consumption. The table has columns for the product name, energy efficiency class (A, A+, G), and a "Details" link. The first row shows the LG Electronics F4WR5010SYW model with an energy efficiency class of A. The second row shows the LG Electronics F2R5008NSWW model with an energy efficiency class of A.

European Commission

EN English

EPREL - European Product Registry for Energy Labelling

Home > Washing machines

Search

Model identifier

Brand or trademark

Energy Efficiency Class

Any

☐ Include models not placed on the market anymore

+ Advanced

Reset Search

Washing machines (14 043)

REGULATION (EU) 2019/2014

Showing result 1 to 25

Items per page 25

Sort by

+ Models distribution by performance class

LG Electronics	A	Details >
F4WR5010SYW		
Overall dimensions	85 (Height) x 60 (Width) x 57 (Depth)	cm
Rated capacity	10	Kg
Weighted energy consumption [per 100 cycles, eco 40-60]	46	kWh
More		

LG Electronics	A	Details >
F2R5008NSWW		

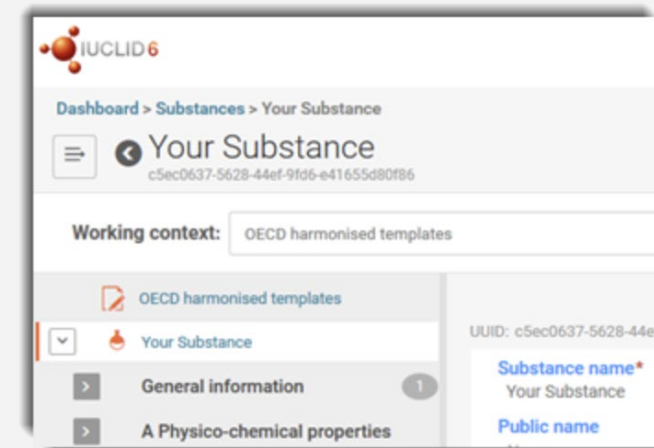
SCIP database

The first database at article level

Manufacturers are providing information to consumers and waste operators on the presence of substances-of-very-high-concern (SVHC) in articles contained in products part of the Candidate List of REACH. The **SCIP database** is based on the Waste Framework Regulation and is applicable since 1 January 2021.

- It ensures that information on these articles containing Candidate List substances is available throughout the whole life-cycle of the products and materials, including end of life.
- [IUCLID](#)

Home

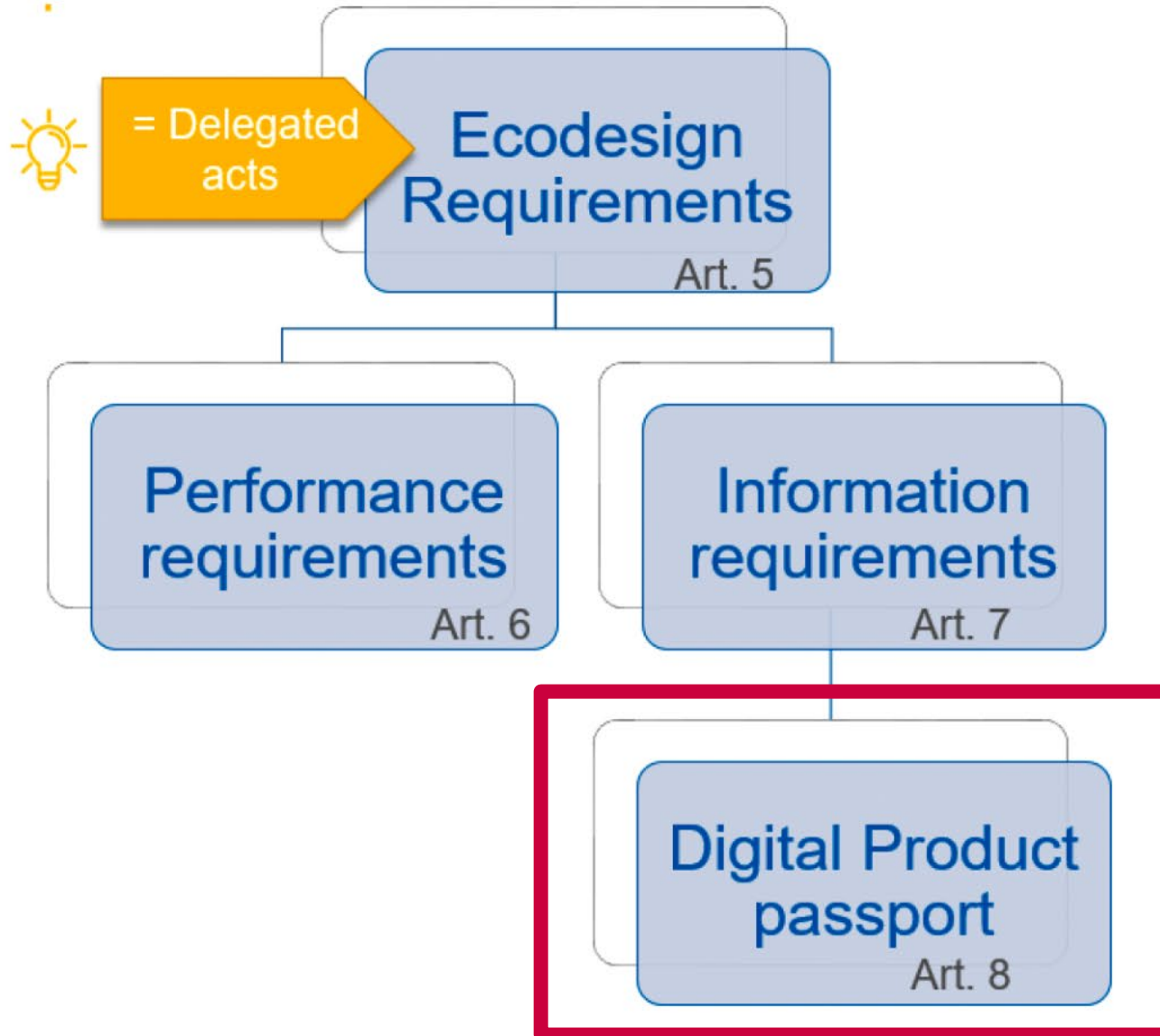


► [Download IUCLID](#)

IUCLID plays a central role in the IT environments of all organisations that manage scientific data on chemicals in a regulatory context, for example under the OECD HPV, EU Biocides, and EU REACH:

- Industry stakeholders
- EU Member States
- The European Chemicals Agency (ECHA)

Key Ecodesign product aspects



- **durability, reliability; reusability; upgradability;**
- **reparability;** possibility of **maintenance** and **refurbishment**;
- presence of **substances of concern**;
- **energy use** or **energy efficiency**;
- **resource use** or **resource efficiency**;
- **recycled content**;
- possibility of **remanufacturing** and **recycling**;
- possibility of **recovery** of materials;
- **environmental impacts**, including carbon and environmental footprint;
- expected generation of **waste** materials.

Chapter 3 - Key recommendations for the DPP

The ingredients for an effective DPP



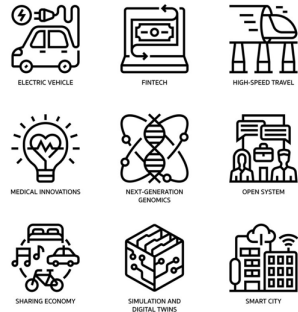
EU Commission expectations for the DPP



Tracking of **raw materials extraction/production**, supporting due diligence efforts



Benefit **market surveillance authorities and customs authorities**



Enable **manufacturers** to increase transparency in the value chain, better compliance, increased circularity and sustainability, fight counterfeiting, new business models



Make available to **public authorities and policy makers** reliable information. Link incentives to **sustainability performance**



Enabling services related to its **remanufacturing, reparability, second-life, recyclability**, enabling **sustainable business models** (product as a service)

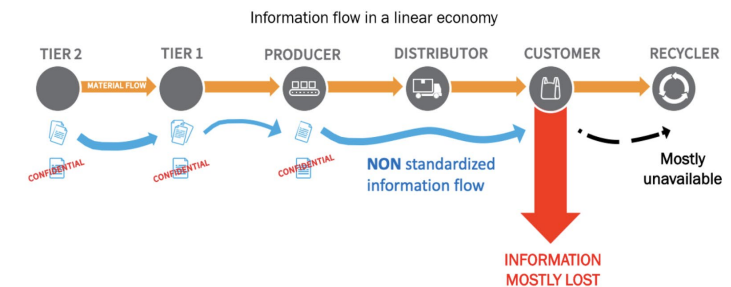


Allow **citizens** to have access to **relevant and verified product information**

How to achieve them?

Key recommendations

1. Ensure that the information collected will **add value to actors in the supply chain and to consumers.**
2. Assess the appropriateness of the DPP (sector by sector and product by product) to positively contribute to a **significant increase in the sustainability of products.**
3. Any information appearing in the DPP should be subject to **robust impact assessment**, on a **product-by-product level** and **underpinned by recognised standards.**
4. It is important that **already existing data formats and sources** are used to prevent confusion and overlapping/contradicting requirements (establish a direct link to **EPREL**, **SCIP**).
5. Data security and access rights should be a priority to ensure **any confidential, business sensitive information is protected** from unauthorised access and liability for data loss and other technical damage must be clarified.
6. **Effective enforcement** of the content in the DPP is essential (the information requirements must be clearly specified, and measurement standards must be available to clarify how the complex information should be established).



How to achieve them?

Key recommendations

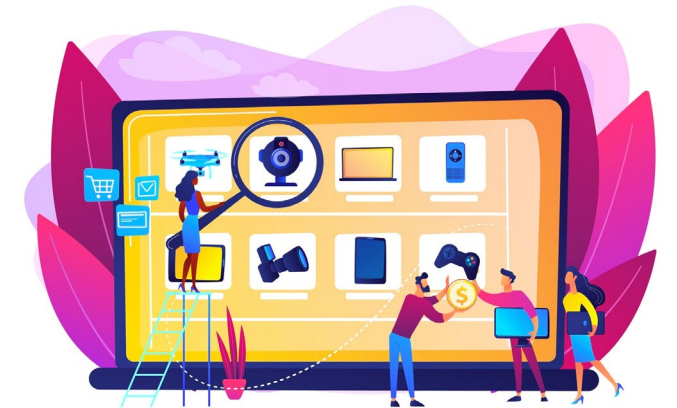
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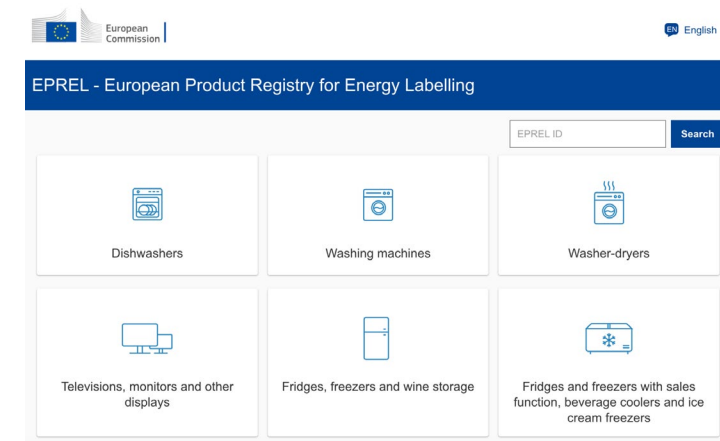
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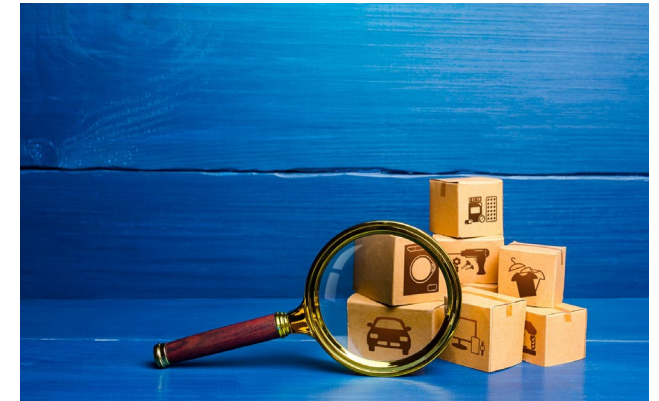
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Chapter 4 - Conclusion



Standardisation request and current
political discussion

Next steps

ESPR, Standardisation & Case study



1. Negotiations between the EU Commission, Council and Parliament are ongoing on the **Ecodesign Sustainable Product Regulation (ESPR)**.
2. **Standardisation request** on the DPP should be finalised in 4Q 2023 and standards should be delivered by December 2025.
3. According to the Commission, the timeline is very tight and not extendable. **By early 2027 the first DPPs (batteries for e vehicles)** shall be operational. Around the same time, also the first Delegated Acts on ESPR regulated products should become implementable

Thank you for your attention!

giulia.zilla@applia-europe.eu

Stay tuned!



- circthread.com
- trick-project.eu



- company/circthread-project/
- company/trickproject/

How to pave the way to the future Digital Product Passport

Q&A

Cristina Di Maria – Research Project Manager UNI Ente Italiano di Normazione
Rimini - 07/11/2023



These projects have received funding from the European Union's H2020 programme under Grant Agreement No. 958448 & 958352



European Standardization Organisations' role in the development of the Digital Product Passport

Carolina Müller
CEN and CENELEC

Rimini - 07/11/2023

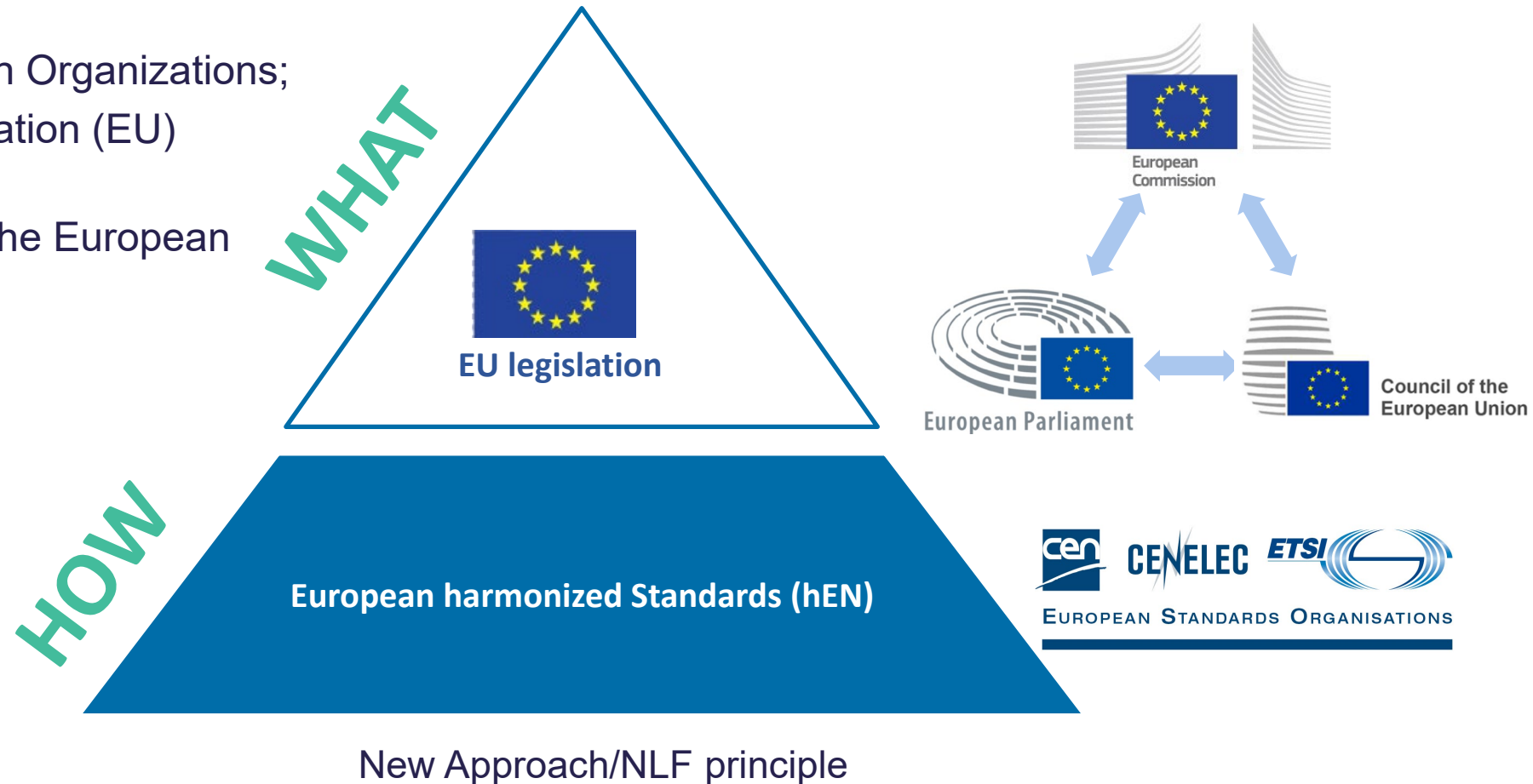


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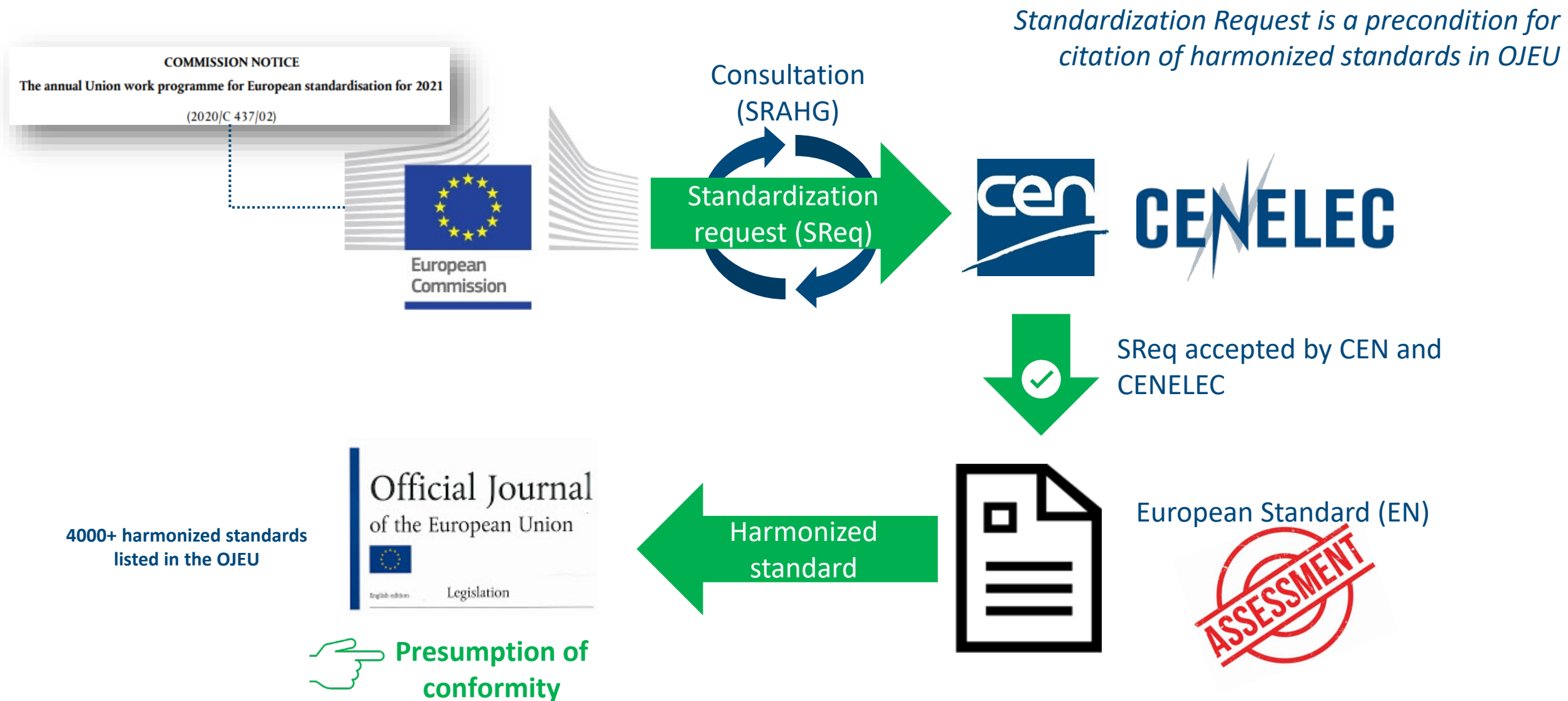
EU product harmonization (hEN) - principle

CEN and CENELEC

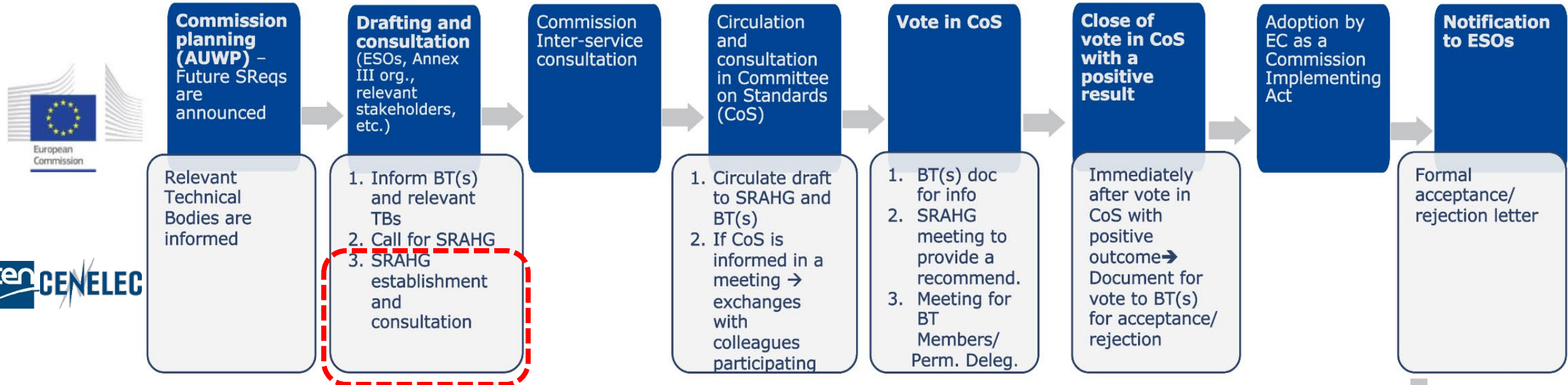
- European Standardization Organizations;
- Recognition under Regulation (EU) 1025/2012;
- Close collaboration with the European Commission;



EU product harmonization - Workflow



Standardization Request (SReq) - Process



SReq DPP

(current status)

DECISION BT 018/2023
on
the use of Checklist for
SREQ.

Action: PM + SRAHG

IF ACCEPTANCE



Timeline of draft SReq – Digital Product Passport

Draft Standardization Request ‘Digital Product Passport’ – timeline of events

- The adoption of Digital Product Passports (DPP) was outlined in the EU’s Ecodesign for Sustainable Product Regulation (**ESPR**, March 2022);
 - **Aim of draft SReq DPP**: Creating a clear concept for the DPP, defining a cross-sectoral product data model (first the DPP System);
- In March 2023, the **AUWP** (annual Union work programme for European standardization, issues by EC) lists the Digital Product Passport as one strategic priority for 2023 = CEN-CLC Alignment with the EC key objectives;
- **First draft SReq DPP** received by CEN-CLC in May 2023, second version in September 2023;
- June 2023: CEN-CLC Standardization Request Ad Hoc Group (**SRAHG**) ‘DPP’ has been established to discuss draft SReq content and closely collaborates with the European Commission, EC DG GROW;
 - **SRAHG Composition**: 98 participants (18 CEN-CLC members and ANEC + ECOS + SBS + APPLiA + DigitalEurope)
- ~ November 2023 **start of Commission inter-service consultation** with final draft SReq version.

Content of draft SReq – Digital Product Passport

Content of SReq ‘DPP’

- Scope of work: to describe the IT concepts for the DPP system to be operational;
- 8 areas of interest;
- Challenge for standardizers: to deliver the standards is 31. December 2025;
- No product specific information and technical solutions are included;
- Coordination with EC is complex, many DG's from the Commission are involved;

Reference information	
1.	Harmonised standard(s) on unique identifiers
2.	Harmonised standard(s) on data carriers and links between physical product and digital representation
3.	Harmonised standard(s) on access rights management, information, system security, and business confidentiality
4.	Harmonised standard(s) on interoperability (technical, semantic, organisation)
5.	Harmonised standard(s) on data processing, data exchange protocols and data formats
6.	Harmonised standard(s) on data storage, archiving, and data persistence
7.	Harmonised standard(s) on data authentication, reliability, integrity
8.	Standards on APIs for the DPP lifecycle management and searchability

New Technical Committee 'Digital Product Passport'

CEN and CENELEC Joint Technical Committee (JTC)

- Establishment approved by the CEN and CENELEC Technical Boards on 20th September 2023;
- Name: CEN/CLC-JTC 24 'Digital Product Passport'
- The Secretariat is held by Germany (DIN);
- (Proposed) Chairperson = Prof. Thomas KNOTE (Fraunhofer Institute);
- The kick-off meeting of the Committee is scheduled for 18th December 2023.

Deliverables and responsibilities

- Coordinating the development and adoption of standards for the DPP (first the system);
- SReq DPP Annexes include proposals for standards to be used and adopted for creating a DPP system; the list will be reviewed by JTC 24;
- Requirements by EC: system must be based on standards which are already in use (where possible);
- Guarantee interoperability between new and existing DPP approaches.

Thank you for your attention!

Carolina Müller, CEN and CENELEC Project Manager – Energy and Living
cmueller@cencenelec.eu

Stay tuned!



- circthread.com
- trick-project.eu



- [company/circthread-project/](https://www.linkedin.com/company/circthread-project/)
- [company/trickproject/](https://www.linkedin.com/company/trickproject/)



Cirpass

Jan Merckx – GS1 Netherlands

Rimini - 07/11/2023



These projects have received funding from the European Union's H2020 programme under Grant Agreement No. 958448 & 958352

My passport



CE Action Plan

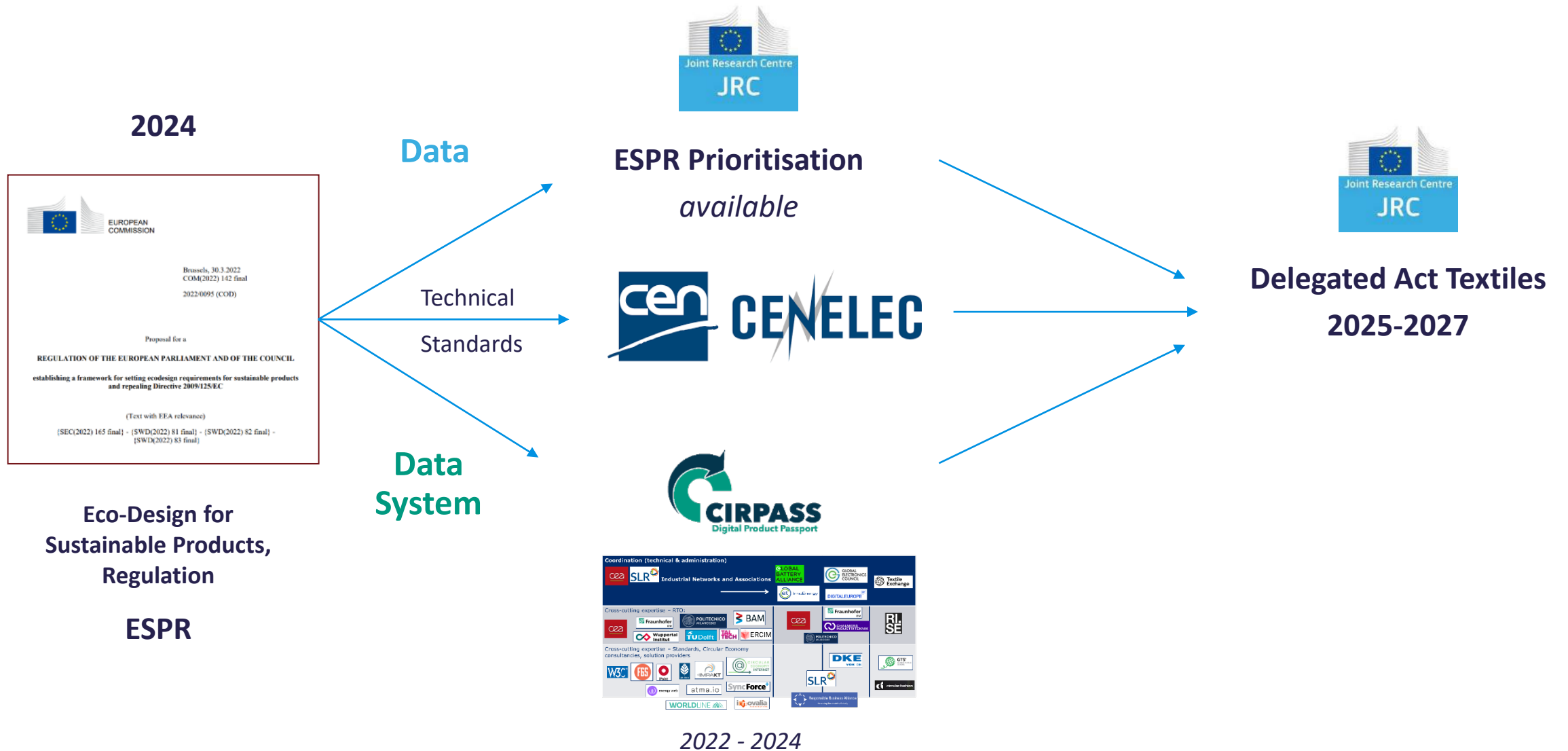
ESPR - DPP



Plastics Recycling Hub
EV Batteries Reprocessing

DECATHLON

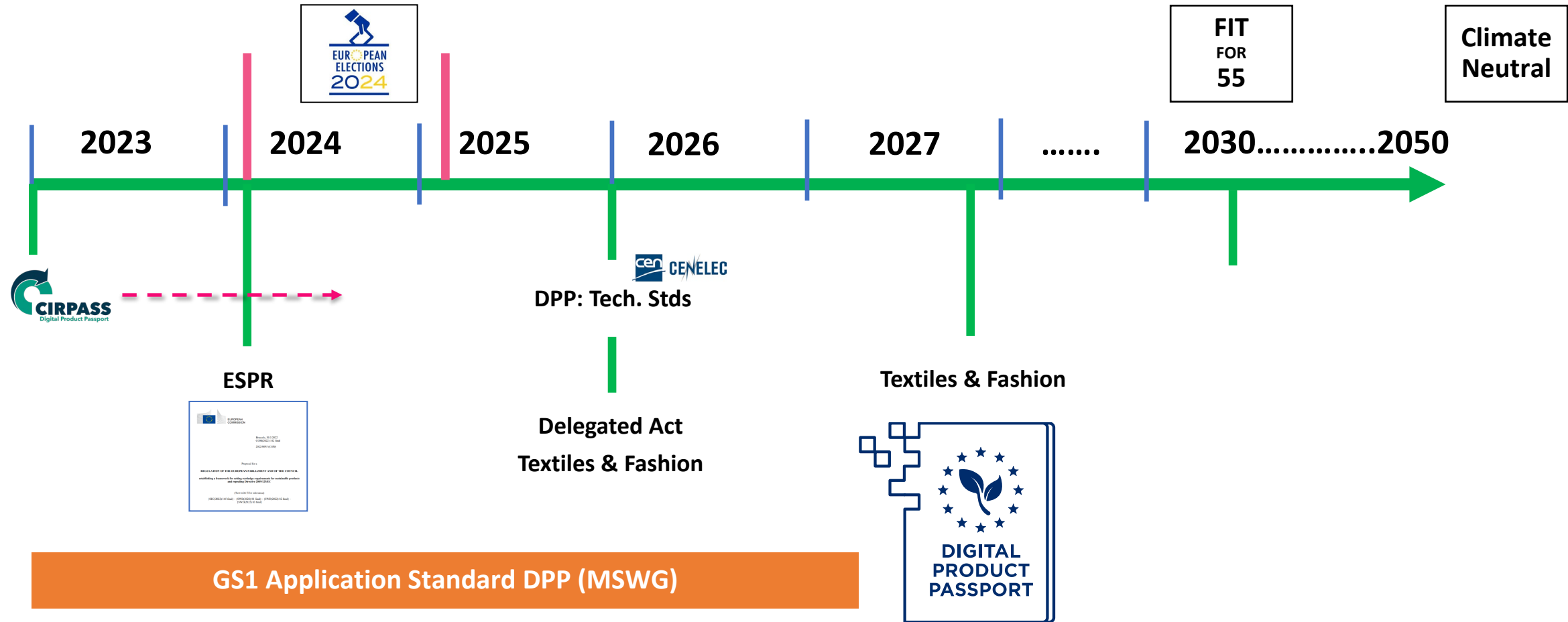
The DPP roadmap



Timeline



Eco Design for Sustainable Products Regulation (ESPR) -> DPP



The ESPR – Eco-design requirements

2024



Eco-Design for
Sustainable Products,
Regulation

ESPR

Data



Article 1: **ecodesign requirements**

Performance requirements (see article 5, 6 and annex I)

- (a) product durability and reliability;
- (b) product reusability;
- (c) product upgradability, reparability, maintenance and refurbishment;
- (d) the presence of substances of concern in products;
- (e) product energy and resource efficiency;
- (f) recycled content in products;
- (g) product remanufacturing and recycling;
- (h) products' carbon and environmental footprints;
- (i) products' expected generation of waste materials.

Information requirements (see article 7, 8 and annex III)

This Regulation also establishes a digital product passport ('product passport')

The DPP data system

2024



Eco-Design for Sustainable Products, Regulation

ESPR

Technical Standards

Data System



2022 - 2024



Delegated Act Textiles

The ESPR – Art. 10 - Essential requirements

2024



Eco-Design for
Sustainable Products,
Regulation

ESPR

Data
System

Art. 10: **Essential requirements of technical design and operation of the DPP**

- (a) product passports shall be **fully interoperable** with other product passports in relation to the **technical, semantic and organisational aspects of end-to-end communication and data transfer**;
- (b) free access based on their respective access rights
- (c) data stored the economic operator
- (d) not be allowed to sell, re-use or process
- (e) remain available including after an insolvency, a liquidation or a cessation of activity
- (f) rights to access and to introduce, modify or update information specified in delegated acts
- (g) data authentication, reliability and integrity shall be ensured
- (h) designed and operated so that a high level of security and privacy is ensured and fraud is avoided.

The ESPR – Art.9 – General DPP requirements

2024



Eco-Design for
Sustainable Products,
Regulation

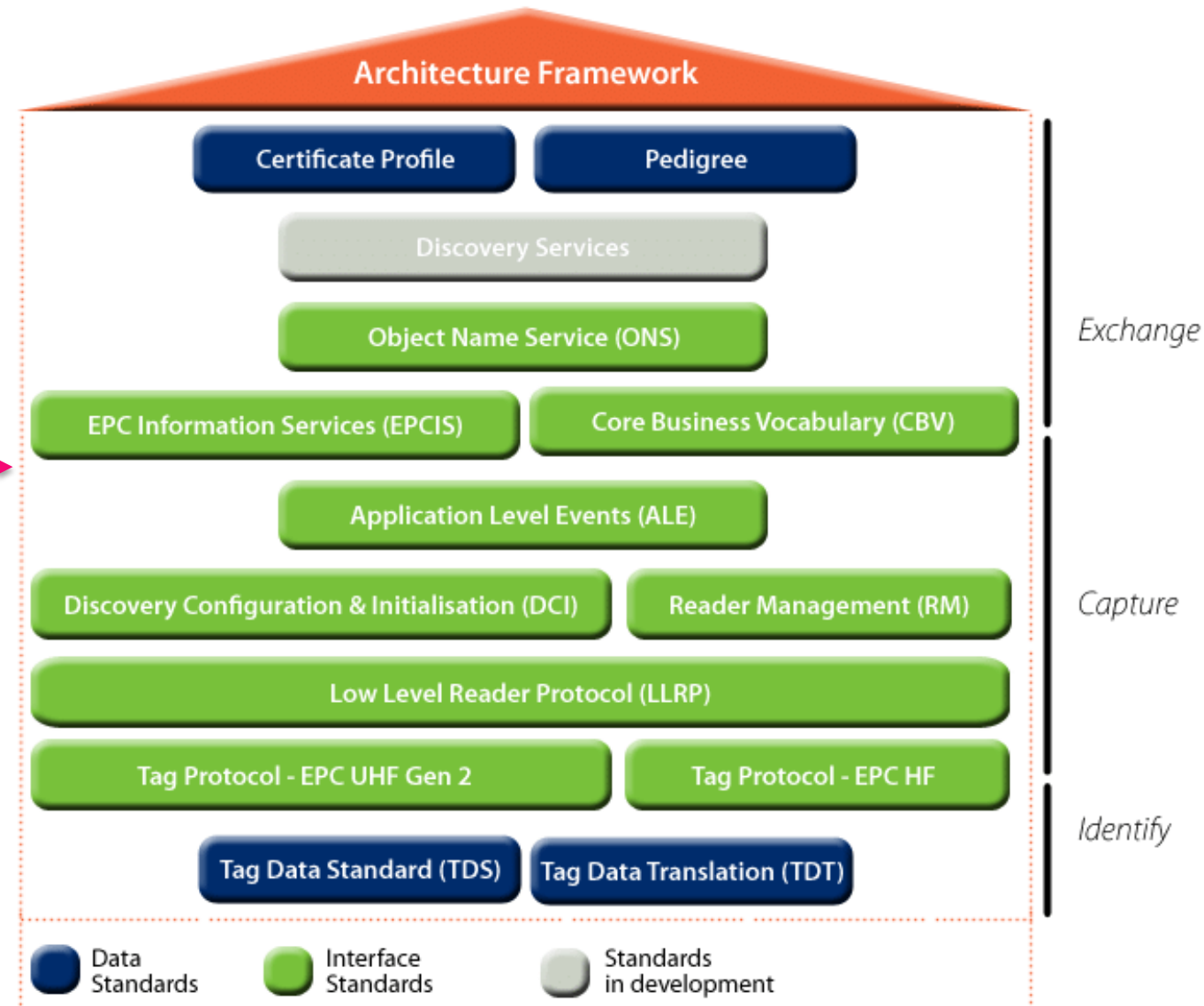
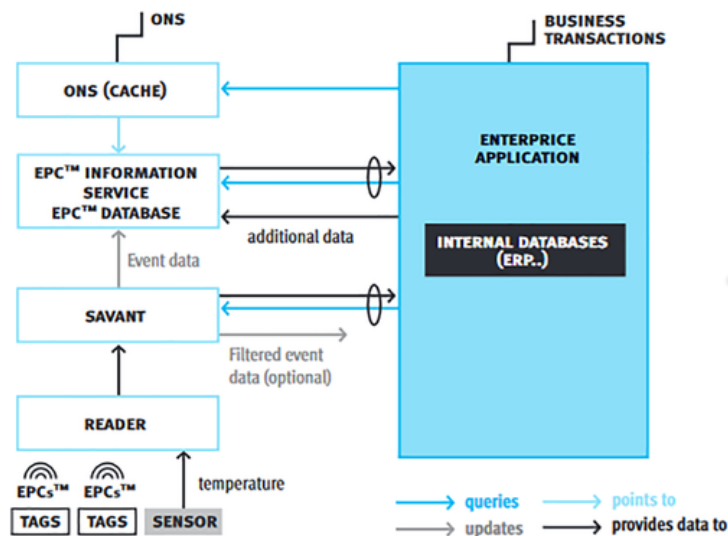
ESPR

Data

Article 9: **general DPP requirements**

- (a) connected through a **data carrier** to a **unique product identifier**;
- (b) the data carrier shall be **physically present on the product**, its packaging or on documentation
- (c) the data carrier and the unique product identifier shall comply with standard **(‘ISO/IEC’) 15459:2015**;
- (d) all information shall be based on **open standards**, developed with an **inter-operable format** and shall be **machinereadable, structured, and searchable**,
- (e) shall refer to the product **model, batch, or item**
- (f) The **access** to information included in the product passport shall be regulated in accordance with the essential requirements set out in Article 10 and the specific access rights at product group level shall be identified in the applicable delegated act adopted pursuant to Article 4.

1999: Internet of Things – The Auto ID Center



What is CIRPASS?

Funded by the European Commission under the Digital Europe Programme, **CIRPASS** is a collaborative initiative to prepare the ground for the gradual piloting and deployment of a standards-based **Digital Product Passport (DPP)** aligned with the requirements of the Proposal for Ecodesign for Sustainable Product Regulations (ESPR), **with an initial focus on the electronics, batteries, and textile sectors.**

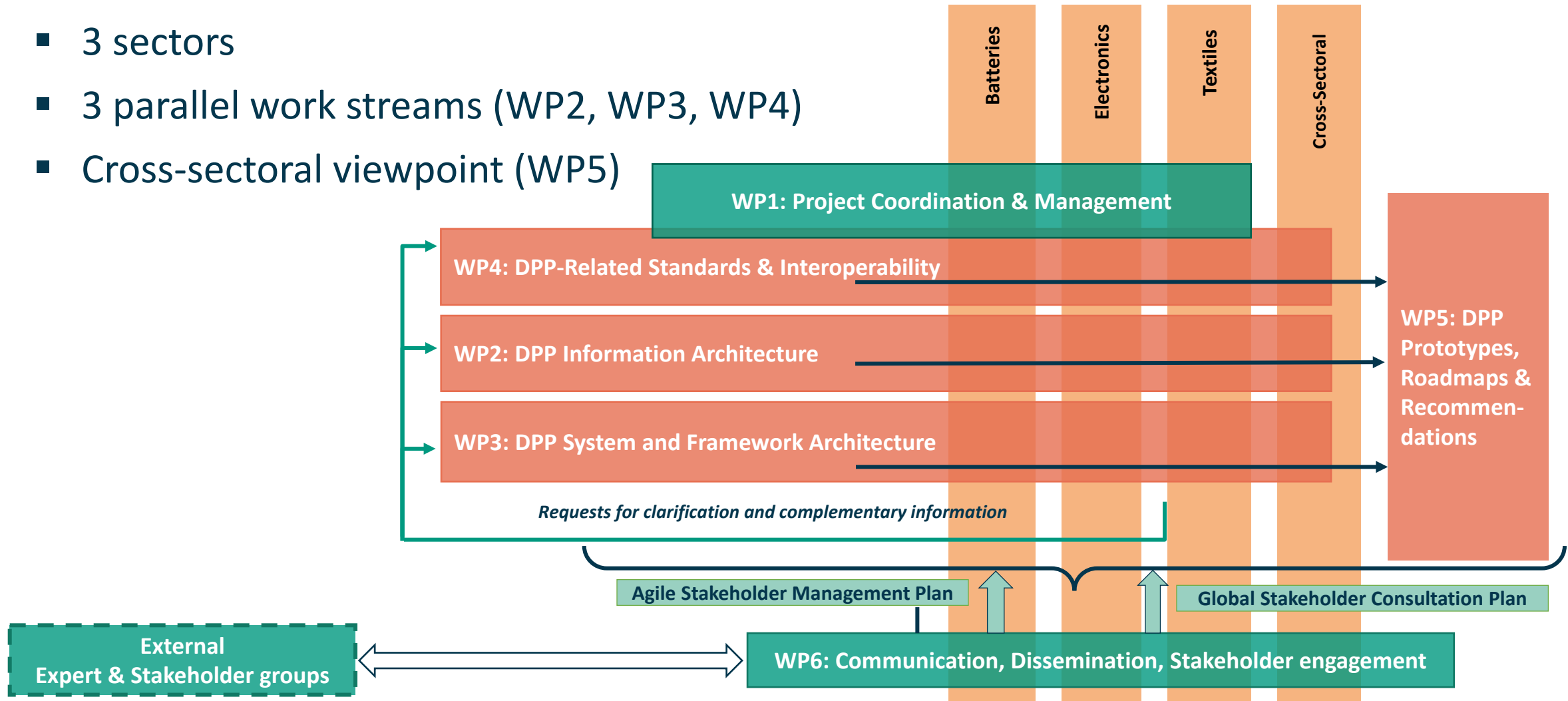
- **Duration:** 18 months (from Oct 2022)
- **Coordination and Support Action (CSA)**
- **Involvement of 31 partners** representing thousands of industrial, research, digital, and international, standards, organisations across Europe and beyond.

CIRPASS Main Objectives

- Create an inclusive forum to build a common understanding of a cross-sectoral DPP.
- Build **stakeholder consensus** on DPP prototypes in three sectors:
 - Batteries
 - Textiles
 - Electronics
- “By ‘Prototype’ is meant a simple description of a Digital Product Passport including agreements and suggestions on all aspects including: data, technical, semantic, organisational and legal.”

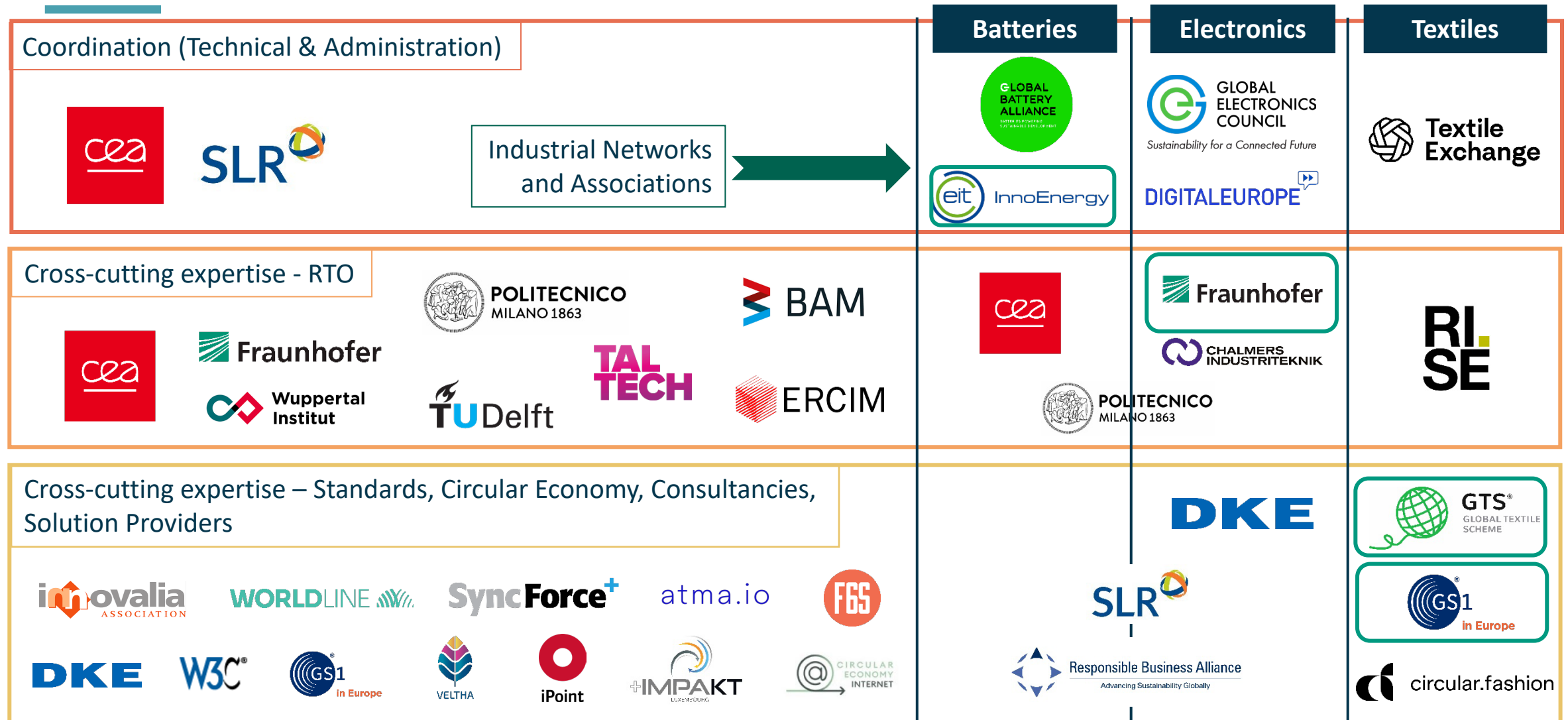
CIRPASS Work Streams

- 3 sectors
- 3 parallel work streams (WP2, WP3, WP4)
- Cross-sectoral viewpoint (WP5)



CIRPASS Consortium – 31 partners

 Sector Lead



The GS1 toolbox for a DPP

Unique product
identification

GTIN
Global Trade
Identification
Number

Locations

GLN
Global Location and
Organisation
Number

Links to
information

**GS1 Digital
Link**

Decentralised
data

Masterdata and
attributes

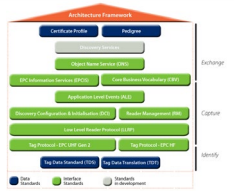
GDM

Data
attributes

EPCIS

Event data

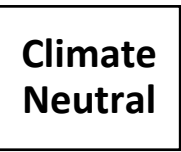
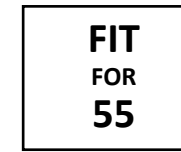
Data carrier



Timeline



Eco Design for Sustainable Products Regulation (ESPR) -> DPP



2023

2024

2025

2026

2027

.....

2030.....2050



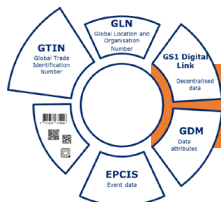
DPP: Tech. Stds

ESPR



Delegated Act
Textiles & Fashion

Textiles & Fashion



GS1 Application Standard DPP (MSWG)

Thank you for your attention!

Jan Merckx

Jan.Merckx@gs1.nl

Stay tuned!



- circthread.com
- trick-project.eu



- company/circthread-project/
- company/trickproject/



Textile Supply Chain Traceability

The role of DPP & Standardisation - What companies need to do?

Lutz Walter, Textile ETP

Rimini - 07/11/2023



These projects have received funding from the European Union's H2020 programme under Grant Agreement No. 958448 & 958352

What is the Textile ETP?

The largest Community of Textile Research & Innovation Professionals in Europe

Objective: ensuring long-term competitiveness of the EU Textile & Clothing Industry through collaborative and market-oriented research & innovation.

- Brussels-based
- Launched as an industry-led initiative in 2004
- Non-profit organisation since 2013
- 4 founder organisations:



185

associated member
organisations from 29
European countries

150+

Masterclass & community
subscribers

1300+

connected experts

The 3 big Sustainability Challenges

TRACEABILITY

Defossilise &
Biobase

No fossil primary materials



Renewably Electrify

No fossil energy in
production



Digitise & Automate

Produce locally,
on demand



KYC

Know Your Customer



KYS

Know Your Supplier



Key Aspects of the DPP



- Data Collection (e.g. materials and chemicals used, manufacturing locations/processes employed, energy or water consumption, environmental impact...)
- Data Analysis and Information Generation: Turn raw data into relevant & communicable information
- Supply Chain Data Management (ensure chain of custody)
- Data carrier & data presentation – unique product identifier linked to a database
- Accessibility: who has the right to see what?
- Product Lifecycle Tracking: possibility to update DPP during product life

What to do as a company

1. Stay informed
2. Map your full supply chain (upstream & downstream)
3. Create a sustainability data strategy & responsibilities/incentives
4. Update your (green) marketing
5. Make small experiments/join pilot projects (collect & analyse data inhouse & with supply chain partners)
6. Develop digital skills & help your less advanced supply chain partners
7. Start talking to companies offering DPP services/tools
- 8. Join alliances/associations to work on data, process & service standards**



Don't miss the TRICK project events!



Wednesday 8th November

10:30 - 11:30 @ Textile District - Workshop Area pad. B3

TRICK project: the solution to boost a sustainable and traced textile value chain (in English)

Hosted by Sistema Moda Italia

Thursday 9th November

14.45-15.00 @ Tiglio Room A6 pav.

Enable circularity and traceability in the textile value chain through blockchain technology (in Italian)

Carla Fité Galan (UPC), Alessandro Canepa (Fratelli Piacenza S.P.A)



LinkedIn



Instagram



Website

Thank you for your attention!

Lutz Walter

lutz.walter@textile-platform.eu

Connect with me
on LinkedIn



Stay tuned!



- circthread.com
- trick-project.eu



- company/circthread-project/
- company/trickproject/



TRICK data model and standardisation

in “How to pave the way to the future Digital Product Passport: the role of standardization”

Rimini - 07/11/2023

Piero De Sabbata
(expert collaborating with Politecnico of Milano,
formerly ENEA CROSS-TEC laboratory)

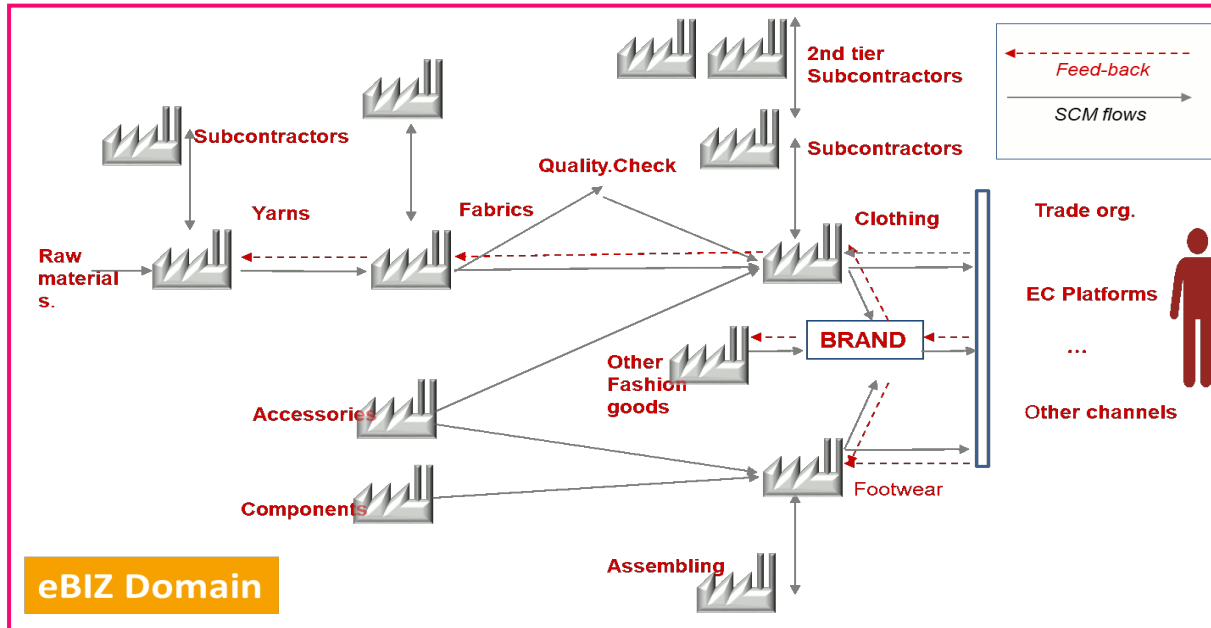


Summary

- TRICK data model and its requirements
- TRICK and standardisation
- TRICK Approach and issues
- TRICK and party and product identification
- What's next?

TRICK data model and its requirements/1

1. Moving from **linear scenario** up to a **circular** one



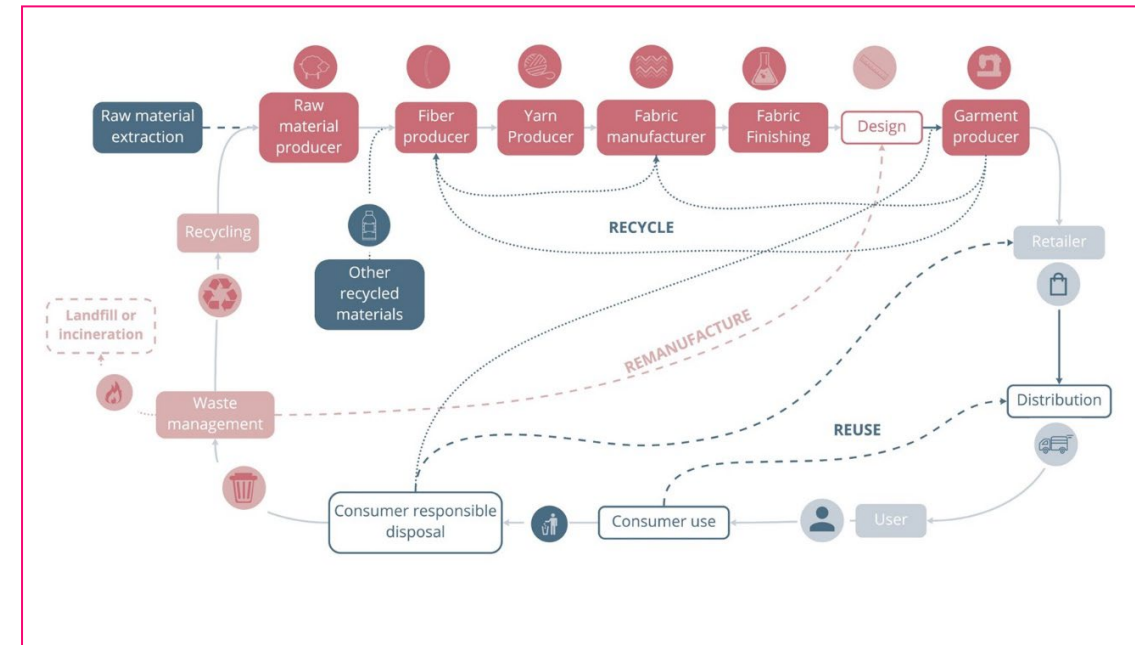
Demanding for

- SYSTEMS INTEROPERABILITY
- TRANSPARENCY and DATA AVAILABILITY
- DATA QUALITY and CLEAR UNAMBIGUOUS SEMANTIC

→ **standardisation**

More complexity and more information:

- Business as usual
- PEF, Health, Social & Ethics, Material circularity assessment
- Other specific services like PCO, anti-counterfeiting...



TRICK data model and its requirements/2

2. Looking for a Trade off between generalisation and cost effectiveness

- Standards (*should*) offer a guidance for the data representation and semantic
- Standards (*should*) allow investing once for many partnership
- Standards are complex in order to meet more than one use case
- Standards' complexity hampers their adoption by small organisations

Whish list....

1. Ready to use

Few degrees for freedom for
(mis)interpretation

Reduced effort for designing
solutions

Vertical (domain
oriented) vs

Horizontal specification

Example:

An UBL 1.0 order (horizontal spec.)
allows 2-3 millions of possible
xpath's to identify its content

An eBIZ order (vertical, initial
version) had 76 possible xpath's to
identify its content

2. Harmonised

Easy to map each other
and towards proprietary
systems

Same approach

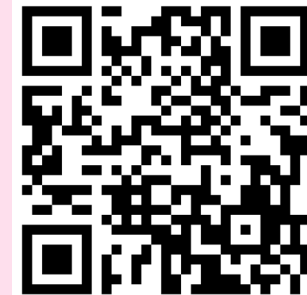
Common analysis

Easy translation

TRICK framework

- **A framework based on**
 - UNECE methodology for transparent and sustainable supply chains,
 - CEN CWA 16667, eBIZ specifications for data exchange in textile clothing industry
 - a number of other standards (like GRS) and nomenclatures (like TARIC, incoterm, ...)
- **Original contribution from the TRICK project will complement such a framework:**
 - Mixed **Event based** (GS1 and UNECE) versus **Message based** approach in order to integrate business as usual with the event based traceability models
 - Allow close integration with **blockchain** distributed ledgers
 - Allow multiple Product and Location **identification scheme** (not binding to a single issuer: GS1, GTS, others)
 - Proposal of **Enriched Event** paradigm: event descriptors are self explaining and self contained
 - emphasize the knowledge and autonomous role of SMEs performing a single step in the chain

- Link to policy brief «*How can standards facilitate the setting up and management of sustainable SMEs supply chains?*»:
- <https://mydisk.cs.upc.edu/s/THSSFPSESCHqQCG>



TRICK public data model

- TRICK data model is a public proposal of extension of eBIZ specifications

- **Achieved Objectives and Outcomes**

1. 154 decoding tables (42 built specifically for TRICK), representing its ontology and **nomenclatures** (from UNCEFACT, EWC, TARIC, and others built for TRICK like the **process step taxonomy** with more than 195 new elements)
2. **Extension of the eBIZ specification**, including 308 new **structured data elements** (previously 912) supporting traceability and sustainability in TC sector
3. An **enriched event model** adopted for reporting product history with a **multiple identifiers** approach

Ontology

conceptualization of the **knowledge** about the domain, organized within the eBIZ Dictionary, improved for TRICK purposes and accessible via web application.

Extended Dictionary

abstract data model made of

- 17 processes, 43 activities
- 110 document types
- 1220 data elements
- 2477 codes in the nomenclatures

Data Model

automatically generated **XML and JSON Schemas** associated to the business documents exchanged within the transactions between the parties in the supply chain

Supporting resources

User guides, XSL transformer, conformance testing tools, codelists, Co-constraint based customised use profile generator... courses...

TRICK project

- TRICK data model

• Achieved Objectives

1. 154 decoding tables (UNCEFACT, EDI, EWC elements)
2. Extension of the traceability and supply chain
3. An enriched environment

Ontology

conceptualization of the **knowledge** about the organized within the e Dictionary, improved for TRICK purposes and accessible via web application.

eBIZ: initiative launched by European Commission (DG Industry & Enterprise) and promoted by EURATEX, CEC and ENEA, managed by EURATEX.

■ Objective

- Creation of a favourable environment for ICT and eBusiness adoption for the European Textile, Clothing and Footwear (TCF) industry enabling an inclusive supply chain integration : the

REFERENCE ARCHITECTURE

■ Focus

- Harmonisation, at European and International level, of architectures and existing standards related to the eBusiness for the TCF industries
- Creation of a critical mass of adopters

■ History

- 2008-10: eBIZ collects international (**OASIS UBL**) and sectorial experiences (**Moda-ML**, **Shoenet**) and embeds them in a common architecture (eBIZ-TCF project)
- 2010-13: eBIZ submitted to a **CEN WS process**
- 2016-18: a new project, eBIZ 4.0, had been launched to foster its adoption among European industries and software developers and to exploit synergies with the RFID technology.

www.ebiz-tcf.eu, www.ebiz.enea.it

atures (from more than 195 new

sly 912) supporting

pproach

Supporting resources

er guides, XSL transformer, performance testing tools, Co-constraint based customised use profile generator...

the supply chain

courses

TRICK components

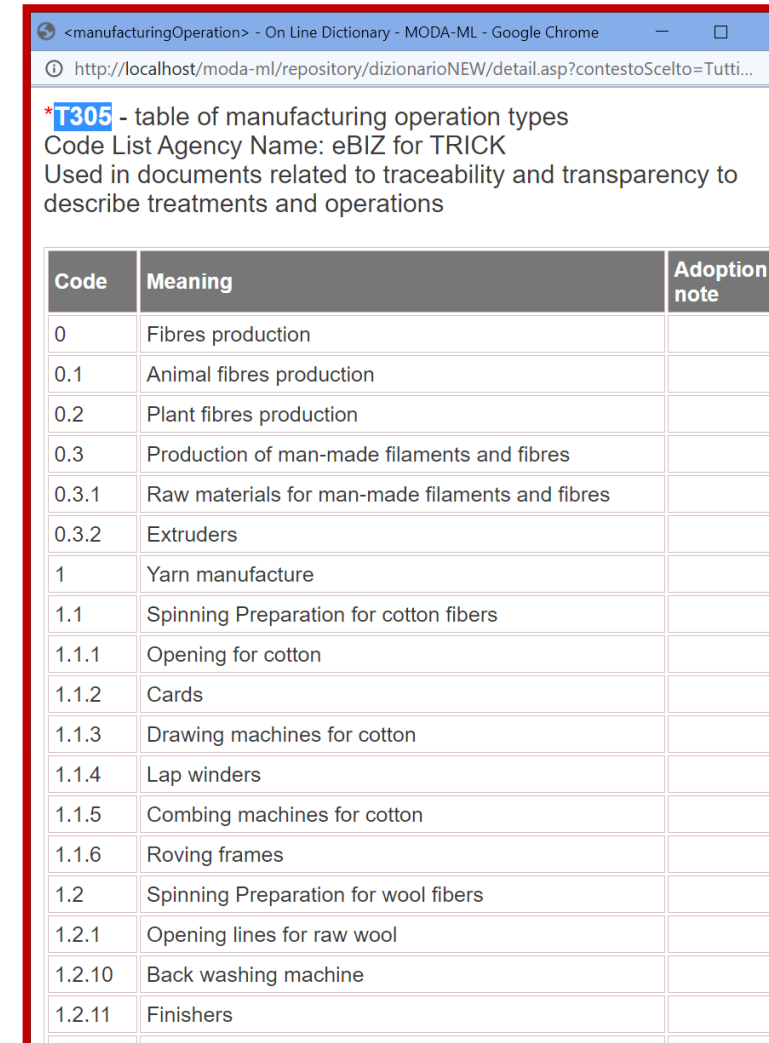
1. **eBIZ consolidated processes:** raw material, yarn, fabric, garment supply chain operations (supplying, subcontracting, quality check, etc: typical EDI models: [catalogue](#), [master data](#), [order](#), [order response](#), [despatch advice](#), ..)

2. Extension of TRICK for traceability

- Traceability report:

- Multiple numbering organisations for product and party identifiers
- Tracing who and when is uploading information
- Daily operation and third party evidences (eCMR..)
- Enriched Event Based Model (mapped towards EPCIS (GS1) and UNECE specifications (libraries UNCL 21A, 21B and 22)
- Disclosure instructions for each element/group of elements uploaded
- Hierarchical taxonomy of 195 manufacturing steps with multilevel granularity

- [Logistic messages for traceability \(despatch/receiving advice](#) referencing eCMR documents, lots, transport means and other evidences)



***T305** - table of manufacturing operation types
Code List Agency Name: eBIZ for TRICK
Used in documents related to traceability and transparency to describe treatments and operations

Code	Meaning	Adoption note
0	Fibres production	
0.1	Animal fibres production	
0.2	Plant fibres production	
0.3	Production of man-made filaments and fibres	
0.3.1	Raw materials for man-made filaments and fibres	
0.3.2	Extruders	
1	Yarn manufacture	
1.1	Spinning Preparation for cotton fibers	
1.1.1	Opening for cotton	
1.1.2	Cards	
1.1.3	Drawing machines for cotton	
1.1.4	Lap winders	
1.1.5	Combing machines for cotton	
1.1.6	Roving frames	
1.2	Spinning Preparation for wool fibers	
1.2.1	Opening lines for raw wool	
1.2.10	Back washing machine	
1.2.11	Finishers	

TRICK components

3. Extension of TRICK for Transparency

- Transparency report:
 - supporting PEF Category Rules (draft PEF-CR) for apparel products, SA8000 and others
 - primary data collection with reference quantity of product (example: x kWh per 1 yarn kg)
 - collected data associated to the **validationMethod** of calculation/estimation
 - Information on disclosure policy declared at low granularity
- holistic approach to data representation: harmonisation with data requested by different certification schemes/services
- Collected statements are notarised on the blockchain
- simplified data structures for PEF, Social and ethical accountability, Health protection,...as a subset of the Transparency report

Product identification
Bill of Component
Composition
Origin
ProcessSteplist
Certificate
SelfAssertion
AssessmentStudyDocument
SustainabilityCharacteristics
• Bill of material
• Bill of chemical
• Bill of waste
• Bill of direct emissions
• Bill of energy
• Bill of Used Water
• Bill of treatments
• Bill of transport
• internalWastewaterTreatmentPlant

TRICK holistic data representation

•Holistic approach to data representation: harmonisation with data requested by other services

•Matrix of data blocks reuse



Empower on PRIMARY data collection rather than secondary data and 'certifications' only strategies

SERVICE	Traceability	PCO	CMA	PEF	HEALTH	SOCIAL	AIAC
Product identification	X	X	X	X	X	X	X
Bill of Component	X	X	X	X	X	-	
Composition	-	X	X	X	X	-	
Origin	X	X	-	-	-	X	
ProcessSteplist	X	X	X	X	X	X	
Certificate	-	-	X	-	X	X	
SelfAssertion	X	X	X	X	X	X	X
AssessmentStudyDocument	X	X	X	X	X	X	
SustainabilityCharacteristics							
Bill of material	-	-	X	X	X	-	
Bill of chemical	-	-	X	X	X	-	
Bill of waste	-	-	X	X	-	-	
Bill of direct emissions	-	-	-	X	-	-	
Bill of energy	-	-	-	X	-	-	
Bill of Used Water	-	-	-	X	-	-	
Bill of treatments	X	X (simplified)	X	X	X	-	
Bill of transport	X	X	-	X	-	-	
internalWastewaterTreatmentPlant	-	-	-	X	-	-	

TRICK multiple identification system support

TRICK allows multiple identification systems support:

- identifiers from owner of registries (like GS1, GTS and others), for example EAN product number, are supported and TRICK allows to declare WHO issued such code so that different ones can coexist

But, in order to avoid minimize costs and changes internally to the legacy systems,

- a **Party** can also be identified by an EORI like code, (typically based on ISO two characters representation of the country)+<a fiscal code of the company>
 - in Italy it is IT+<vat code>
 - in turkey it is TK+<unique fiscal company number>it is easy, free, recognised, and absolutely unique.
- A **Product** might be also identified in the same way by different actors (one product multiple UID :
 - product identifiers: <producer eori code>\$<internal product code of the supplier >
 - It works also to assign

It is easy, it is readable, it is unique and allow anybody to adopt the preferred coding rules

Drawback: when company A buys products from company B it is necessary a mapping between the different identifiers; one from the producer, one from the buyer.

Towards DPP

DPP Position Paper – DPP Compliance

Alignment of TRICK Services data with the DPP:

TRICK collects data that can substantiate the claims and assertions in the DPP.

	Preferential Certification of Origin (PCO)	Circularity Assessment	Product Environmental Footprint (PEF)	Health Protection Assessment	Ethical Assessment	A.I. for Anticounterfeiting
(a) durability		●				●
(b) reliability		●				●
(c) reusability		●				●
(d) upgradability		●				●
(e) reparability		●				●
(f) possibility of maintenance and refurbishment		●				●
(g) presence of substances of concern				●	●	●
(h) energy use or energy efficiency			●			●
(i) resource use or resource efficiency			●			●
(j) recycled content	●	●	●			●
(k) possibility of remanufacturing and recycling		●				●
(l) possibility of recovery of materials		●				●
(m) environmental impacts, including carbon and environmental footprint			●	●		●
(n) expected generation of waste materials		●				●

On April 17th 2023, the **TRICK consortium presented a set of recommendations** related to the DPP requirements to the ESPR proposal that will be laid down in the future delegated acts of the textile category

Thank you for your attention!

Contact:

piero.desabbata@gmail.com

Stay tuned!



- circthread.com
- trick-project.eu



- [company/circthread-project/](https://www.linkedin.com/company/circthread-project/)
- [company/trickproject/](https://www.linkedin.com/company/trickproject/)



The consumers' perspective

Luisa Crisigiovanni

Euroconsumers Head of Fundraising Program and Eu Projects Development

Rimini - 07/11/2023



These projects have received funding from the European Union's H2020 programme under Grant Agreement No. 958448 & 958352

CONSUMER SURVEY FOR CIRCTHREAD

Aims

- Define the **scope of a digital platform linked to consumers' products** and explore which relevant information to include for their benefit
- Incorporating **consumers' experiences**

Methodology and main dimensions

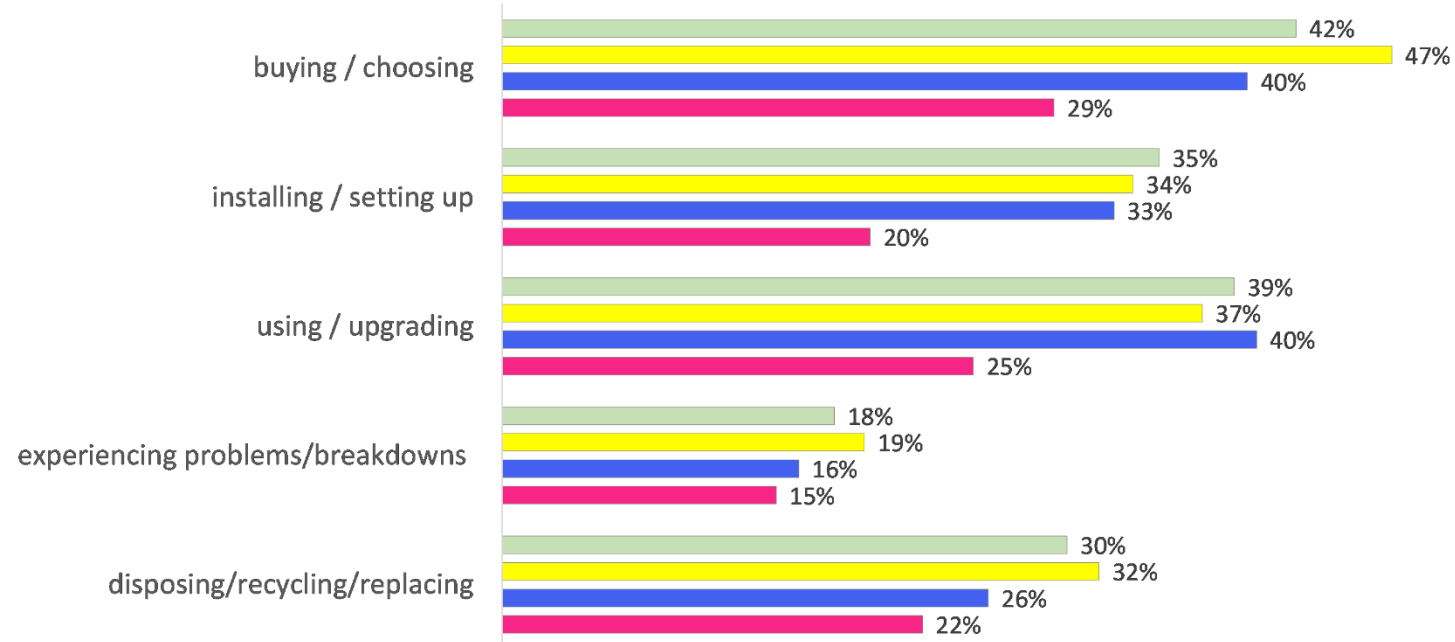
- Self-administered online questionnaires
- Data collection: **May 2022**
- National representative samples – **Belgium, Italy, Portugal and Spain**
- **5.665** respondents aged 25 to 64.
- Detect **what kind of information about sustainability is helpful from a consumers perspective when purchasing** and using products, as well as key aspects that would facilitate the active **involvement of consumers during product lifetime**, tailored to:

Small and large household appliances, Hi-tech devices, and Heating systems

MAIN FINDINGS

#1

Significant gaps of information, especially when faced with product breakdowns and disposal



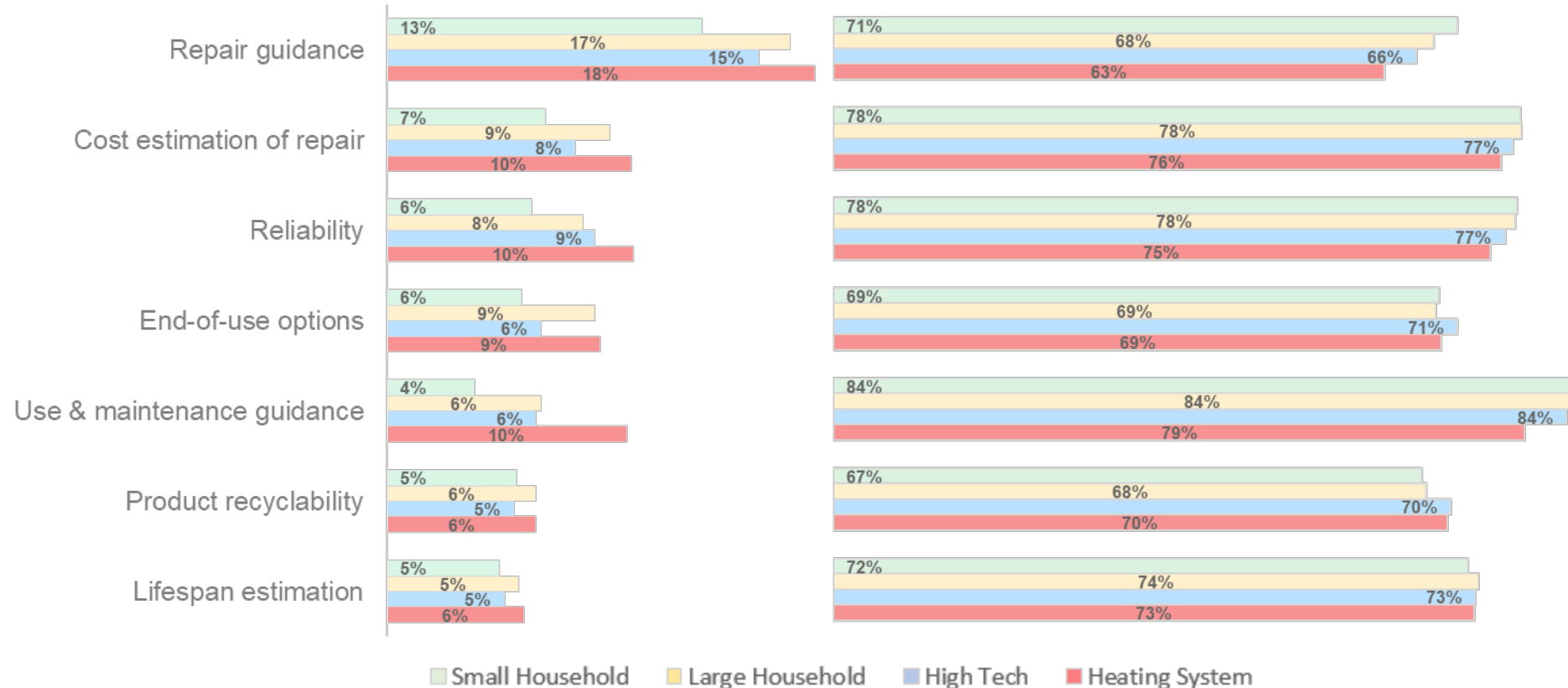
■ Small Household Appliance ■ Large Household Appliance ■ High Tech device ■ Heating System

Percentage of people perceiving themselves as '(very) well informed' in the different lifecycle phases

MAIN FINDINGS

#2

A large majority consumers (>70%) is ready and willing to use circular economy information, yet only a minority is willing to pay for it (5% - 20%).



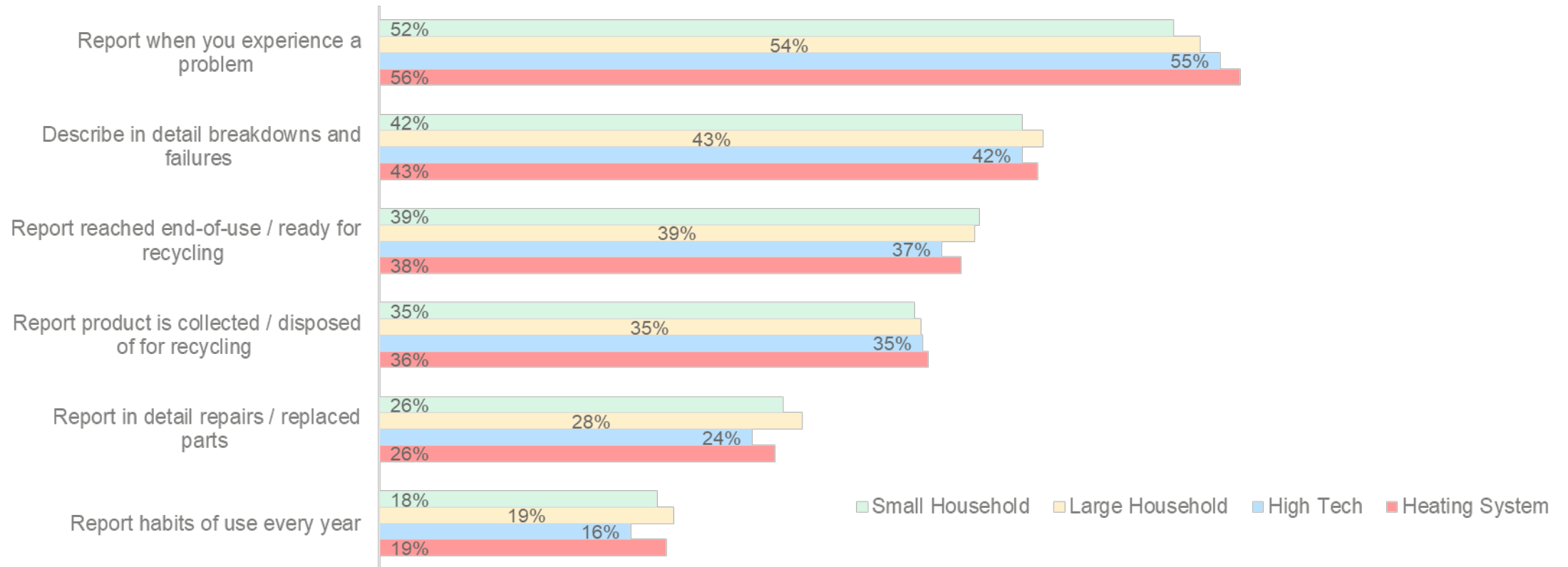
Percentage of 'Yes, even if had to pay a small fee'

Percentage of 'Yes, but only for free'

MAIN FINDINGS

#3

The willingness to perform actions / share information varies between 16% and 56% depending on the requested action



Respondents willing to perform actions / share information related to their products through an app/website

INFORMATION NEEDS ASSIGNED TO THE PLATFORM



When purchasing a new product

- *Most important sustainability / circularity criteria:*
 - *energy consumption*
 - *expected lifespan*
 - *expected cost level for use and maintenance*
 - *easiness to repair*



When using product / facing a problem

- *Main interest for information:*
 - *use & maintenance guidance*
 - *repair cost estimates*
 - *warranties*
 - *reliability*
 - *repair guidance*



When disposing / recycling

- *(Very) helpful information to extend the lifespan of the device (Dishwasher example):*
 - *information about pick-up services at home for repair/recycling*
 - *maintenance tips and advisory*
 - *support to handle repairs*
 - *support for disposal and recycling*

BARRIERS TO USE A DIGITAL PLATFORM

Two main **BARRIERS** for half of the consumers to register and use the platform, whichever the product categories

- **PRIVACY**: interactions with digital tools on an anonymous basis, by registering the products and not the individuals

Around 2 in 3 respondents ...

... having privacy concerns would register products only if anonymous

... lacking trust in brands would register products only if anonymous



- **COST**: low willingness to pay any fee but more willing to participate if some benefits are available (f.i. useful information)

What else could hold back use?

- fear of receiving advertisement
- lack of trust in independent organizations and in brands
- minor obstacles: lack of time, lack of reward and unclear benefits

Thank you for your attention!

Luisa.Crisigiovanni@euroconsumers.org

Stay tuned!



- circthread.com
- trick-project.eu



- company/circthread-project/
- company/trickproject/



Consumer Behavior relating to Circular fashion, Innovation and Usage of QR code

Micol Batelli

Scuola Universitaria Superiore Sant'Anna

Rimini - 07/11/2023



These projects have received funding from the European Union's H2020 programme under Grant Agreement No. 958448 & 958352

Study Aim and Methodology



A **questionnaire-based survey** has been developed to assess:

1. **Consumer sustainable behaviors** relating to the **textile sector**
2. **Consumer attitude towards technology** (QR-code and blockchain)

Main objectives:

- Outline some specific **consumer behaviors** defining their **extent**
- Understand which **factors** influence consumers **preferences, choices** and **actions**
- Explore **motivations, barriers** and **relations among variables**



Study Context

- Survey administered from **December 2021** to **January 2022**
- A **random sample of citizens aged 18-70** chosen to ensure representativeness
- **5,124** usable **questionnaires** collected in **five European countries**



ITALY

GERMANY

SPAIN

FRANCE

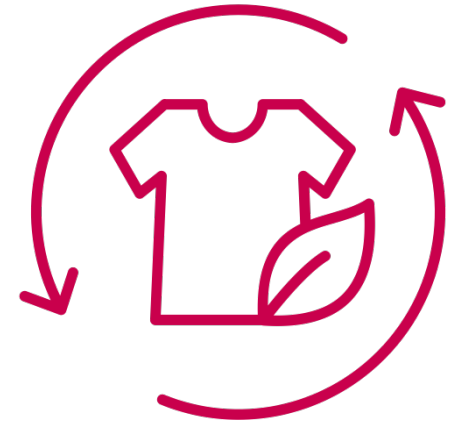
POLAND

Awareness and Perception of Self-effectiveness

75% is **aware** of the amount of **waste generated by the fast fashion system** and believes that **recycling garments can help** to prevent such a huge waste of resources

80% agrees that **it is worth disposing of end-of-life clothing properly**

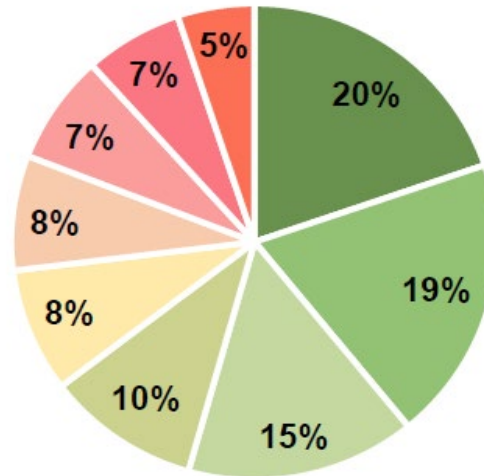
75% believes that it is important to **extend product life by choosing long-lasting clothes or by giving a new function** to those that are no longer used



Purchasing Behaviors and Preferences

Importance of clothing attributes

- 1 Price
- 2 Quality of materials
- 3 Durability
- 4 Environmental impact*
- 5 Company ethical behavior
- 6 Use of recycled fibers
- 7 Aesthetics
- 8 Local production
- 9 Fashionable



(*) Impact of the entire life cycle (CO₂ emissions, water consumption, etc.)

Sustainable purchasing: Most adopted behaviours

62% Prefer clothes with **natural fibres**

60% Buy clothes **without wrapping/packaging**

57% Choose **long-lasting clothes** of the highest quality available

50% Select fabrics produced through **low environmental impact methods**

Consumption Models

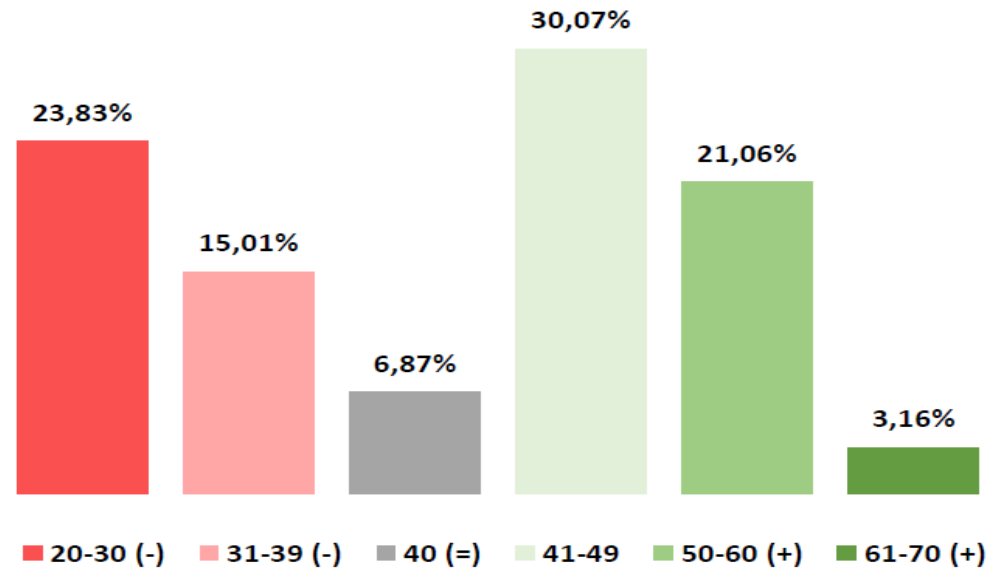
New sustainable consumption models

Limited-adoption behaviors

< 30%

- **Modification/adaptation** of old clothes to create new ones
- purchase of **modern second-hand** clothing
- purchase of clothes made with **reused materials**
- **swapping**

Willingness to pay for a sweatshirt made with recycled fibers



Considering a virgin-fibers sweatshirt is
€ 40

54% is willing to pay **more**
7% would pay the **same**
39% is willing to pay **less**

Motivations and Barriers

MOTIVATIONS

Consumers are primarily motivated by **personal drivers** for purchasing **sustainably produced** and **second-hand clothing**:

- It makes them **feel better**
- It allows to do something **worthwhile**
- It helps **express their identity**

Motivations for **rented clothes** are more **functional**, focusing on **economic benefits**, **space-saving**, **style conformity**, and **flexibility**.

BARRIERS

- The main barrier is the **higher cost** of **sustainably produced clothing**
- Consumers are concerned about **hygienic conditions** and **sanitary risks** for **second-hand** and **rented clothing**

Post-purchasing Behaviors

Caring and repairing

- >60% washes clothes at **low temperatures**
- >60% pays attention to **care instructions** on fabrics labels
- >60% **avoids** the use of **dryer and iron** when possible
- ≈40% **repairs by oneself or asks** friends and relatives **help** to do it



End-of-life

- Overall virtuous habits: **only 19%** of respondents **throw away clothes**
- Low attitude towards obtaining an economic advantage by **selling clothes or swapping** them **25%**
- The most common behavior is taking clothes to collection centres or shops **for recycling 51%** or **donation 47%**



Accessibility and Trust in Information

Accessibility to information and Trust in claims and labels

50% feels confident when **additional information** is available

When the information is **third-party certified**, trust increases by **10%**

54% declare **green labels** enhance **credibility** and **their pro-environmental attitude**

46% affirms to be **influenced by eco-labels** in their **shopping habits**

QR codes and **blockchain** can serve as **enabling factors** to promote circular behaviors, offering **a means to provide valuable** purchasing **information**



QR code

QR-code perception

≈80%

highly **value QR code** for **obtaining information** and **time-saving** during shopping

find it **user-friendly** and **easy to learn**

perceive QR-code as **reliable**, **safe**, and **accessible** for obtaining **additional information**

consider information obtained highly/moderately **relevant**



QR-code utilization

60% **use QR-code** at least 1-3 times in a month

40% **use QR-code frequently for product information**

80% **show a positive attitude** towards **innovation** and **seek novelty**

80% **are open to adopting QR-code scanning** to support their **purchase decisions**

Blockchain Technology

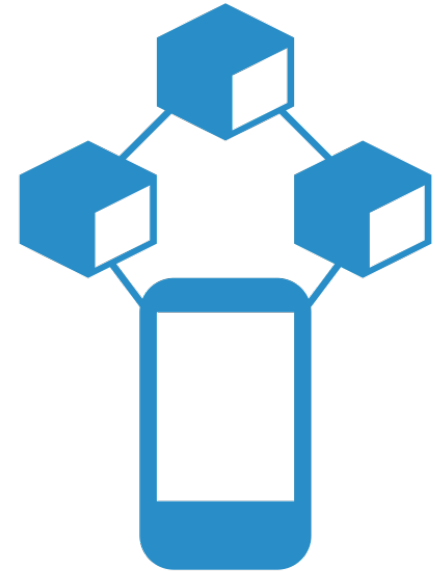
Knowledge and Trust in blockchain

Limited knowledge of blockchain technology:
only **2%** **correctly identifying** all four
true/false **statements**

52% provide 4/4 **incorrect answers** or admit
to **not know**

40% **trust** in this **emerging technology** and
its associated benefits


Fostering trust in new technology
requires education on its core
features and benefits,
coupled with
opportunities for
hands-on
experience in
everyday life to
fully grasp its real
advantages




Key Takeaways

Final considerations

Most European consumers understand the environmental and social **impacts of the current linear fashion model** and the **importance of adopting sustainable behaviours**



However **economic factors** and **product features** continue to **influence clothing-related decisions** heavily



The potential of **QR-code and blockchain technology** to promote **fashion's shift to circularity** requires proper exploitation, as a **promising consumer path** toward sustainability is emerging but **needs further support**

TRICK Project's Contribution

TRICK Platform: Paving the way for circular fashion

TRICK holds a pivotal role in overcoming potential barriers to facilitate the development of innovative circular textile value chains:

1. Promoting **collaboration among key actors**, including **consumers**
2. **Eradicating greenwashing** and demonstrating the **value of circularity** by leveraging **blockchain-based traceability**



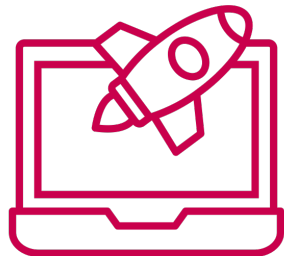
Possible future steps for the digital product passport

1. Improve **consumer engagement** in the circular economy by providing **information for better usage and disposal** of clothing
2. Offer consumers the possibility to access the platform to **enter new information** while **gathering their feedback** (in a **product-as-a-service** perspective)

What's next?

Future research

1. Conducting a **follow-up study** after two years in order to obtain **longitudinal data** reflecting **shifts** in the **perceptions and behaviours** of European consumers over time
2. **Replicating** the same **research design** in the **food industry** (the second chain involved in the project)



Policy makers' role

Policymakers need to further support consumers by:

1. Promoting a **well-functioning market for secondary raw materials**, considering both quality and cost-effectiveness
2. Encouraging the adoption of clothing **rental services** (and other P-a-a-S models) through appropriate incentives
3. Creating **standard certifications** that bolster consumers' trust in **sustainable clothing** and counteract greenwashing

Thank you for your attention!

Complete report: [Consumer Behavior relating to Circular fashion Innovation and Usage of QR code](#)

Authors: F. Testa; N. M. Gusmerotti; M. Batelli; S. Carlesi; V. Di Iorio; T. Iannuzzi; S. Limone

Sustainability Management Laboratory (SuM Lab)

Istituto di Management – Scuola Superiore Sant’Anna



<https://www.santannapisa.it/it/istituto/management/sum-management-della-sostenibilita>



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Stay tuned!



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- trick-project.eu



- [company/circthread-project/](https://www.linkedin.com/company/circthread-project/)
- [company/trickproject/](https://www.linkedin.com/company/trickproject/)



APPENDIX

Trends across Europe

- **Italian, Polish, and Spanish** consumers exhibit a **stronger inclination towards sustainable fashion habits** compared to German and French
- **Poland** stands out for its active engagement in purchasing **second-hand clothing**. Germany and France are less inclined to rent or acquire vintage items
- **Self-repair** is most practiced in **France, Germany and Poland**
- **Spain and Italy trust more** environmental claims and eco-labels, while **France and Germany** tend to be more **sceptical**
- **Spain, Italy, and Poland** exhibit a greater willingness to **embrace QR codes**

