

Digital Product Passport Network

DPPChain

Mandatory digital product passport in the EU: a regulatory requirement and an instrument for market access and enhanced competitiveness.



What is a DPP?

A Digital Product Passport is a digital card with a unique identifier (QR code, RFID) that contains key information about a textile product:

- **Composition and materials** – detailed information on the fibres used, their percentage content, and the origin of raw materials.
- **Production** – data on the manufacturing process, technologies employed, and environmental standards applied.
- **Reuse and recycling potential** – recommendations regarding repair, reuse, and end-of-life management.
- **Environmental impact** – indicators of carbon footprint, resource consumption, and the presence of hazardous substances.

Timeline of DPP in the EU

The Directive will require textile companies to collect and disclose detailed information about products, including material composition, production processes, and environmental impact.

ESRS

EU Ecodesign
Directive

11/2009

EU Ecodesign
Regulation for
Sustainable
Products (ESRP)

07/2024

Standards and
regulation for the
Digital Product
Passport (DPP)

12/2025

Adoption of
delegated acts
specifying
detailed DPP
requirements

2026

Start of
mandatory
implementation
of DPP in the
textile sector

2027

What's Behind This T-Shirt?

BRKS LABS T-SHIRT

Digital Product Passport



Reference ID #BLTS2567Y-UKR-HF
Hash ID 7EgRn81yKb9qdu97dMvuP8k5UhhZunDHNXXS
Total product weight 300 g
Manufacturer Ukraine

This product is made of 75% recycled materials.



Environment

Climate change

Energy usage

Water usage

■ Materials ■ Processing ■ Manufacturing ■ Distribution

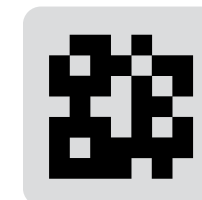
Composition

Cotton 80%
Polyester 20%

Origin

Fabric
Material origin Taiwan
Manufacturing Ukraine

Certificates



Key objectives of the **DPP**

1 TRANSPARENCY AND TRACEABILITY

The DPP ensures a unique digital identification of each product, enabling the tracking of its journey from raw material to final consumer and ensuring accountability at all stages of the supply chain.

2 INFORMED CONSUMER CHOICE

Through a QR code, the consumer gains access to data on the origin, composition, and environmental impact of the product, thereby facilitating conscious and sustainable purchasing decisions.

3 CIRCULAR ECONOMY

The DPP includes recommendations on repair, reuse, and recycling, extending the product's life cycle and reducing waste volumes.



Requirements and tools for DPP

- Data must be accurate, complete, and up to date.
- Access to data must be differentiated, depending on the type of data and the type of stakeholder.
- Any information may be stored in the DPP, not only the mandatory data required by regulation.
- The DPP must remain accessible throughout the entire life span of the product.

Understanding the sources of raw materials

Involves mapping your supply chain, engaging with suppliers, and potentially implementing tracking systems up to the origin of raw materials.

Investment in software solutions

A comprehensive system can automate data collection at different stages, integrate data from multiple sources, and ensure data accuracy.

Implementation of data collection and transmission protocols

The choice of a standardised protocol ensures interoperability, enabling seamless data exchange between different systems and stakeholders.





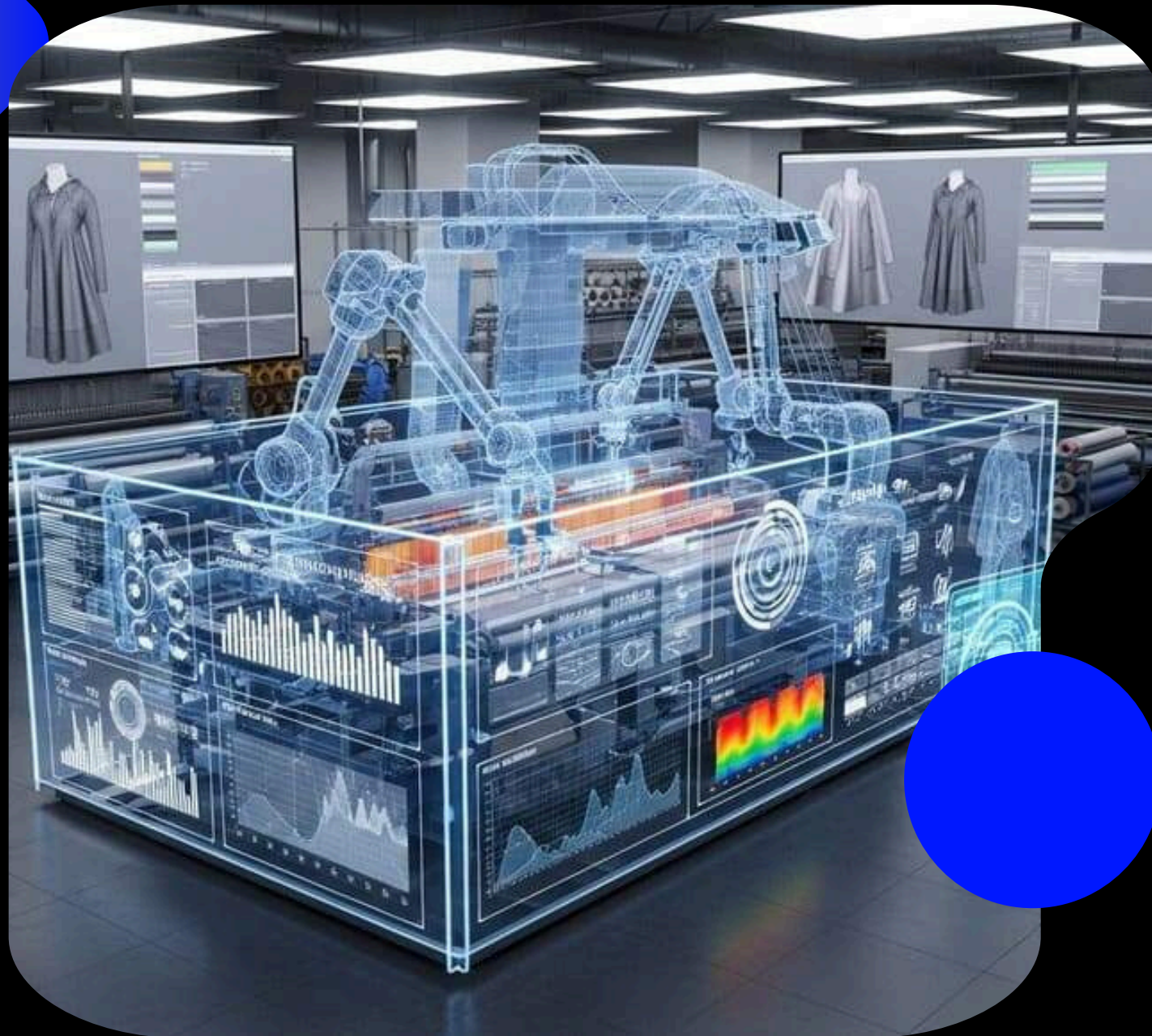
Powered By FIWARE

Digital Twin

is a full-scale virtual replica of a production system that receives real-time data from sensors and not only monitors processes, but also enables active intervention.

Such a model supports simulation, forecasting, and optimisation, creating a feedback loop between the physical object and its digital representation.

In combination with the **DPP**, this ensures transparency and control over the entire product life cycle from manufacturing to disposal.



DPPChain Modules



Data collection and integration module

ERP/IoT systems, sensors, communication protocols



Digital Twin

Access control, audit, data validation



Data Space

ESG data exchange, metadata, API interfaces, Data Storage



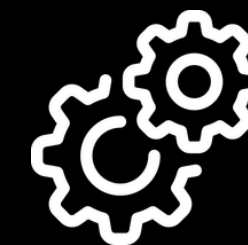
Analytics, visualization & ESG reporting module

Dashboards, KPIs, AI-based analytics, reporting templates, data export, surveys



Blockchain

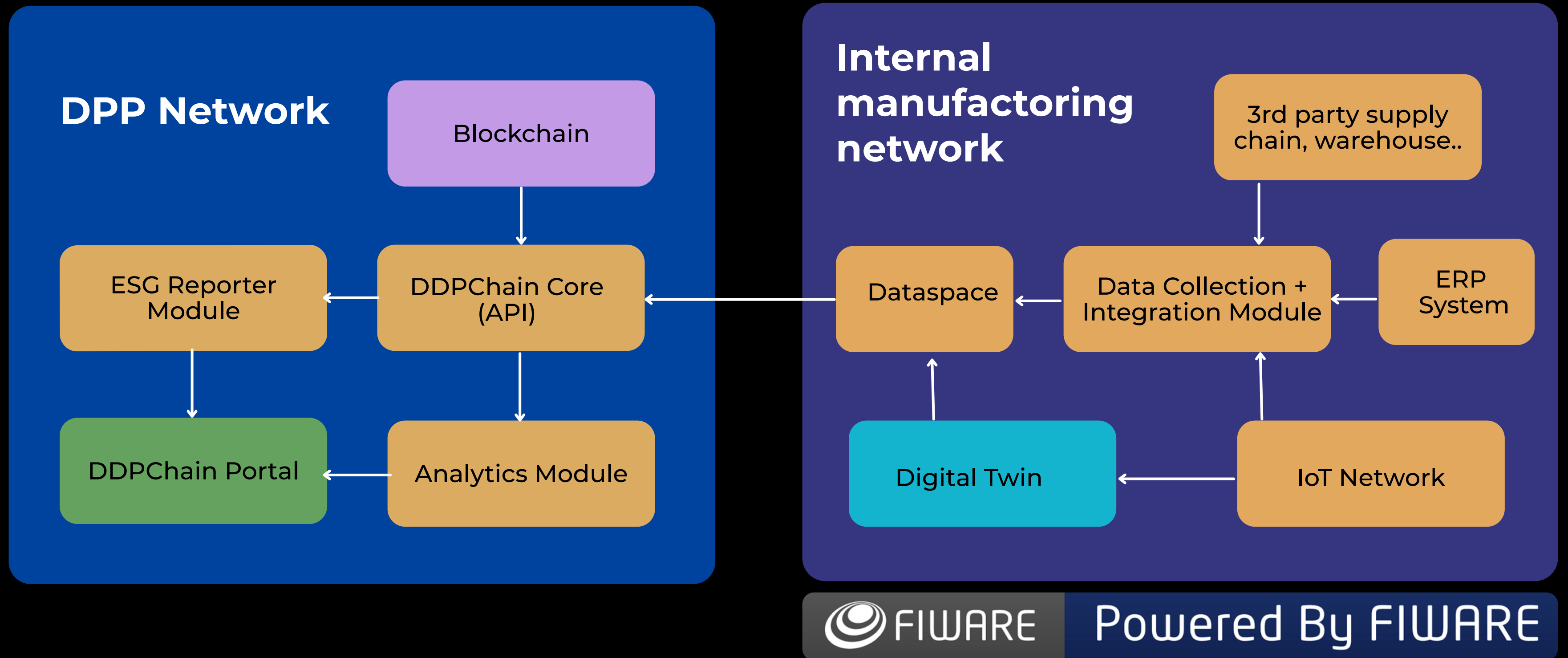
Access control, audit, data validation



Configuration and administration module

Users, KPI editor, planning, monitoring

DPPChain Technical Architecture



EU proposal DPP Data Hosting Options

Option 1

Centralized system
managed by the EC

- All Digital Product Passports are stored on one central EU platform.
- The European Commission manages hosting, backups and security.
- Manufacturers upload data via a web portal or API.

Option 2

Authorized service
provider (federated)

- DPP data are stored by several external service providers.
- These providers are officially authorised by the European Commission.
- Each provider is responsible for reliable storage, backups and uptime.

Option 3

Hosted on the
manufacturer's website
(decentralized)

- DPP data are hosted on the manufacturer's own website.
- Separate backup services are needed to guarantee long-term access.
- Implementation can be outsourced, but legal responsibility stays with the manufacturer.

We can do anything of this!

Key Benefits for Business

- Full transparency of the supply chain
- Guaranteed access to the EU market
- Increased trust from consumers and partners
- Automated ESG reporting
- Higher operational efficiency
- Competitive advantage for the brand
- Secure integration into Data Spaces

DPPchain Implementation Plan for Businesses

- 1** Survey and analysis of enterprises regarding the level of digitalisation, supply chain transparency, end-of-life practices and ESG practices.
- 2** Validation of the concept and prioritisation of modules (data collection, identification, access, analytics), as well as mobilisation of funding.
- 3** Integration with ERP/PLM/PIM systems, IoT sensors and supplier mapping; implementation of standardised data transmission protocols.
- 4** Piloting solutions with QR codes, NFC/RFID, and testing interoperability with data spaces.
- 5** Creation of a data model covering the entire product life cycle (from raw materials to end-of-life), taking into account differentiated access to data.
- 6** Scaling and adaptation of the final product to the specific needs of the industry.

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