

The Product Passport & Digital Thread

Consumer & Industrial Goods Industry

From Invisible Supply Chains to Fully Traceable Value Ecosystems. Global supply chains are entering a new era of transparency, accountability, and digital traceability – where every product tells its own verified story, from raw material to end-of-life recovery.

360°

Lifecycle Traceability

Full product visibility from sourcing to recovery

DPP

EU Regulatory Ready

Digital Product Passport framework compliance

ESG

Verified Reporting

Carbon & sustainability compliance at product level

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Circular Recovery

Repairability, reuse, and end-of-life intelligence

The Strategic Challenge

In 2026, products are no longer viewed as isolated physical objects. They are becoming part of an interconnected Digital Thread – a continuous flow of verified data tracking a product from raw material sourcing through manufacturing, logistics, usage, repairability, reuse, and end-of-life recovery. Consumers, regulators, and procurement bodies increasingly demand visibility into where products come from, how they were produced, their carbon and environmental impact, and whether they can be repaired, reused, or recycled.

For many organizations, this creates a fundamental challenge: traditional supply chains were built to move products – not to maintain auditable, end-to-end digital intelligence. The organization could manufacture and distribute products, but could not fully verify or communicate the product's lifecycle story.

What the Market Demands

- **Verified origin and raw material sourcing**
- **Transparent carbon and environmental footprint**
- **Proof of ethical and ESG compliance**
- **Repairability, refurbishment, and circularity data**

Where Organizations Fall Short

- Limited visibility into supplier practices
- Fragmented lifecycle data across factories, logistics, and distributors
- Difficulty proving environmental and ethical compliance
- No product-level intelligence for circular recovery



Increasing regulatory pressure for Digital Product Passports and ESG disclosures is accelerating urgency across every sector.

Leading companies recognized that compliance alone was not the opportunity. The real opportunity was transforming traceability into a strategic advantage – building trust, operational intelligence, and circular value creation simultaneously.

Transformation Powered by 3D&S + FortisIntel

Fortis & Peak deployed a structured four-phase transformation framework — Define, Design, Deliver, Sustain — powered by the FortisIntel intelligence engine, to architect and operationalize a full Product Passport and Digital Thread ecosystem.



DEFINE

Mapped end-to-end product lifecycle and digital traceability maturity. Assessed data flows across sourcing, manufacturing, logistics, and retail. Identified missing sustainability data points and compliance exposure.



DESIGN

Engineered a Product Passport & Digital Thread architecture. Created DPP frameworks, integrated supplier and sustainability data streams, and developed carbon footprint and ESG tracking mechanisms.



DELIVER

Deployed product-level digital traceability systems. Activated QR-enabled customer access to Digital Product Passport data and integrated real-time monitoring of sourcing, production, and logistics.



SUSTAIN

Embedded continuous lifecycle monitoring and dynamic optimization of supplier strategies. Built capability in digital traceability and ESG operations for long-term circular growth.

Core Platforms & Transformation Architecture

Two integrated platforms power the end-to-end transformation: FortisIntel, the lifecycle intelligence engine, and 3D&S, the transformation execution framework. Together, they shift organizations from a traditional linear product model to a fully intelligent, circular Digital Thread ecosystem.

FortisIntel — Lifecycle Intelligence Engine

- Maps end-to-end product lifecycle data flows
- Enables product-level traceability and Digital Passport integration
- Tracks carbon footprint, sourcing, and circularity metrics
- Provides real-time visibility into operational and ESG performance
- Automates sustainability and compliance reporting

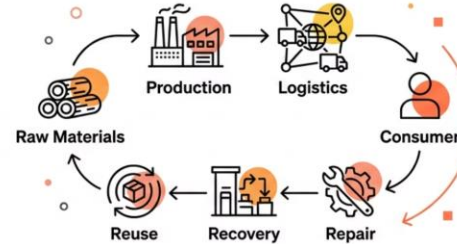
3D&S — Execution Framework

- Define: Identify lifecycle visibility gaps and compliance exposure
- Design: Architect Digital Product Passport and Digital Thread ecosystems
- Deliver: Deploy traceability infrastructure and lifecycle intelligence systems
- Sustain: Optimize transparency, circularity, and regulatory readiness continuously

TRADITIONAL MODEL



DIGITAL THREAD MODEL



INTELLIGENCE LAYER
POWERED BY FortisIntel



Visibility Traceability Compliance Optimization

EXECUTION LAYER
POWERED BY 3D&S



Define Design Deliver Sustain

Measurable Impact & Signature Insight

By embedding Product Passport architectures and Digital Thread ecosystems into the core of their value chains, organizations achieve measurable, verifiable outcomes across compliance, trust, and circular performance. The transformation delivers intelligence that is accessible across the entire value chain – from supplier to consumer to recovery.

Regulatory Readiness

Improved compliance posture for Digital Product Passport mandates and EU ESG disclosure requirements, reducing audit risk and accelerating market access.

Consumer & Stakeholder Trust

Enhanced transparency through QR-enabled product intelligence, giving consumers, procurement bodies, and regulators verified access to lifecycle data.

Supply Chain Visibility

Increased end-to-end visibility into supplier and material ecosystems, with real-time monitoring of sourcing, production, and logistics performance.

Circular & ESG Performance

Stronger circularity and lifecycle recovery performance, with reduced ESG and supply chain compliance risk through auditable, continuous traceability systems.

The products of the future will not compete with features alone; they will compete on the quality, transparency, and intelligence of the data that travels with them.