



Digital Product Passport Panel

RFID Community Connect | May 19–20, 2026

Meet the Experts



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Slide Title

One standard. Every product. From fashion to food.

FASHION



Organic Cotton T-Shirt
 GTIN: 05012345678901 BATCH: T-998-C

Authentic Tracked

CORE STATUS

Authenticity Authentic	Compliance Compliant
Origin India	Category Status Condition: New


TRUST LAYERS

- Verified Origin
- Manufacturing

REGULATORY & ECO

Organic Cotton T-Shirt

FOOD



Organic Baby Spinach
 GTIN: 08422210987654 BATCH: L-442-A

Authentic Tracked

CORE STATUS


Authenticity Authentic	Compliance Failed
Origin California, USA	Category Status Recalled

TRUST LAYERS

- Verified Origin
Harvested from Sector 4.
Salinas, CA 2026-02-25
- Quality Control

Premium Fresh Salmon Fillet

FOOD



Premium Fresh Salmon Fillet
 GTIN: 07033310123456 BATCH: B-8921-X

Authentic Tracked

CORE STATUS

Authenticity Authentic	Compliance Compliant
Origin Norway	Category Status Freshness: Optimal

TRUST LAYERS

- Verified Origin
Hatched and raised in certified sustainable aquaculture.
Stokmarknes, NO 2025-11-10
- [View Certificate](#)

Organic Baby Spinach · Recalled

Authenticity · Compliance · Origin · Freshness — all captured via RFID and structured through EPC / EPCIS

Slide title

From Tag to Cloud




Seamless data flow from physical product to Digital Product Passport



Product → RFID / Tag → Automatic Reading → Real-Time Data → Supply Chain Intelligence → Digital Product Passport

Slide Title

SCALABILITY INTEGRATION ● LIVE May 19, 2026 • 11:27:35 AM



Milk

- Quantity: 13 units
- Location: 8 Top, 5 Bottom Left
- Time: 3h 20m
- Status: Latest batch

Cheese Blocks ⚠

- Quantity: 5 units
- Location: 5 Middle Left
- Time: 26h 15m
- Status: Long presence
- Action: Prioritize rotation

Cheese Wedges ⚠

- Quantity: 5 units
- Location: 3 Middle, 2 Lower
- Time: 31h 40m
- Status: Oldest batch
- Action: Move forward

Kefir

- Quantity: 5 units
- Location: 4 Top Right, 1 Middle Right
- Time: 4h 10m
- Best before: 3 days
- Status: Recently placed

Yogurt Cups

- Quantity: 5 units
- Location: 3 Lower, 2 Middle Right
- Time: 9h 45m
- Best before: 2 days
- Status: Mid-cycle

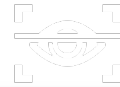
Cream Containers

- Quantity: 5 units
- Location: 5 Bottom Right
- Time: 11h 30m
- Status: Mid-cycle

Temp: +4.2°C ±0.3°C (6h) ● Stable RFID: Active Sync: Real-time

Live temperature monitoring · Item-level RFID reads · Automated rotation alerts · Real-time sync — all feeding a living DPP

RFID & DPP



1 Data Trust

Machine-generated reads

RFID events are written automatically — no manual entry, no human error. Every read is a timestamped, auditable record.

Standards-anchored identity

EPC (GS1 TDS) encodes unique item identity on the tag. EPCIS (ISO/IEC 19987) structures the event log — who, what, where, when, why.

Compliance-ready

Meets ESPR Art. 9 identity & audit trail requirements out of the box.

2 Dynamic Data

Static data

Captured at tagging: product identity, origin, batch, materials, supplier.

Dynamic data

Accumulated in motion: custody transfers, location events, temperature excursions, expiry status — a living DPP.

Quality sensing

Sensor-enabled tags capture environmental conditions (cold chain, humidity) — DPP reflects real product state, not just declared specs.



3 Carrier Interoperability

RFID + 2D together

Not competing — complementary. RFID drives supply chain visibility; QR/Datamatrix enables consumer-facing access.

One identity across all carriers

The same EPC / GS1 Digital Link must be encoded consistently in RFID tags AND 2D codes — pointing to the same DPP.

Breaking the link = breaking trust

Carrier inconsistency is the #1 underestimated deployment risk in real FMCG rollouts.

DPP Is not Just One Document & Workstream

ESPR Framework (Ratified, May 2024)

Core requirements applying to ALL product categories

ESPR Delegated Acts

Category-Specific Requirements:

Identifier granularity, required data attributes, and verification methods per product type.



Batteries
(2024)



Apparel
(2027)



Next Categories
(?)

Other Regulations referencing DPP



Packaging Regulation (PPWR)




Construction Products (CPR)



Other Future Regulations

CENELEC JTC 24 Technical Standards


CEN/CENELEC JTC 24 Technical Standards



Trust Layer
How can the data be trusted?

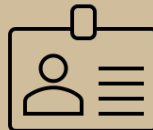


e.g., DID & VC, Blockchain anchoring




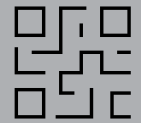
Data Layer
What data format for the product passport?

Format, storage - e.g., GS1-Web Vocabulary, JSON-LD, EPCIS, etc.



Identity Layer
What digital product identity is encoded the tag?

GS1 Digital Link, ISO 15459 



Carrier Layer
What is the on-product tag?

QR / Datamatrix, RAIN RFID (UHF), NFC



Out of scope for now

Format defined by JTC 24 standards, content by delegated acts



Defined by JTC 24 standards

DPP Technical Details - What is Known Today from the ESPR

Identity



- Products will require a **unique identity** (at least SKU level) linking to a DPP [Art 9]
- Identity based on **recognized standard** (ISO15459 e.g., Digital Link) [Art 9]

Carrier



- One or more data carriers leading to passport [Art 9]
- Data carrier needs to be included **on the product** [Art 9]
- Primary data carrier needs to use a **recognized standard (e.g., QR)** [Art 9]

Data



- Foster greener choices [Art 7]
- Substances of concern [Art 5]
- Carbon & Environmental Footprint [Art 5]
- Needs to remain available if a company disappears [Art 9]

Access



- **DPP Web &** easily accessible [Art 7]
- Data accessible & transferable via **APIs** [An 28]
- **Decentralized** data needs to be supported [An 32]
- Allowing differentiated & **granular access** [Art 10]

CEN/CENELEC JTC 24 Technical Standards

Module 1: 18219

Unique identifiers: ISO15459, GS1 Digital Link, etc.

Module 4: 18223

System interoperability

Module 6: 18221

Data storage, archiving, and data persistence

Module 2: 18220

Data carriers: QR, Datamatrix, RAIN RFID, NFC

Module 5: 18216

Data exchange protocols

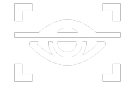
Module 8: 18222

Application Programming Interfaces (APIs) for the product passport lifecycle, management and searchability, REST / HTTP, etc.

Target publication: May 28,
2026

Still in progress:

Module 3 (18239) - Data carriers: QR, Datamatrix, RAIN RFID, NFC
Module 7 (18246) - Data authentication



What are some of the biggest practical challenges organizations face when moving from the concept of a Digital Product Passport to actual implementation?





As we wrap up, what is one key takeaway or prediction each of you would leave the audience with regarding the future of Digital Product Passports and connected product intelligence?





Questions?

