



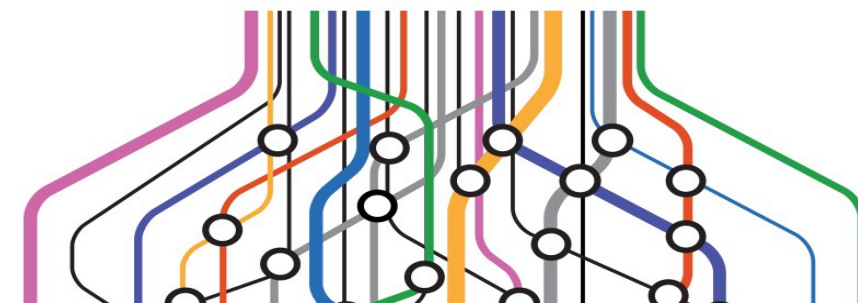
Transparency at Scale

UNECE recommendation 49
UN Transparency Protocol (UNTP)

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UN / CEFAC



Agenda

The Situation (5 min)

- Greenwashing is rampant, regulators are acting
- Transparency is the only way to win

The Complication (2 min)

- Traceability and transparency platforms are not working.

The Resolution (10 min)

- Address all the challenges with a protocol, not a platform.

The Context (5 min)

- UNTP vs EU DPP and dozens of other passport initiatives.

What's Next (8 min)

- Pilots that really can scale to high volumes

Q&A (10 min)

- Open discussion

Greenwashing is rampant

The Situation



<https://www.un.org/en/climatechange/science/climate-issues/greenwashing>

<https://www.zippia.com/advice/greenwashing-statistics/>

<https://www.reuters.com/sustainability/banks-behind-70-jump-greenwashing-incidents-2023-report-2023-10-03/>

https://ec.europa.eu/commission/presscorner/detail/en/ip_23_1692

<https://www.accc.gov.au/media-release/accc-greenwashing-internet-sweep-unearths-widespread-concerning-claims>

Greenwashing is rampant and getting worse

EU 2020



53.3%

53.3% of examined environmental claims in the EU were found to be vague, misleading or unfounded and 40% were unsubstantiated.

AU 2023



57%

Of the 247 businesses reviewed during the sweep, 57 per cent were identified as having made concerning claims about their environmental credentials.

UK 2023



70%

The number of instances of greenwashing by banks and financial services companies around the world rose 70% in the past 12 months from the previous 12 months

US 2023



60%

“three-quarters of executives said most organizations in their industry would be caught greenwashing if they were investigated thoroughly.” Moreover, almost “60% say their own organization is overstating its sustainability methods.”

But greenwashing is now starting to hurt



European Court of Human Rights ruling against Switzerland

- The recent decision by the European Court of Human Rights, which found Switzerland responsible for neglecting its citizens' human rights due to insufficient action against climate change, establishes a legal precedent for assessing future lawsuits



New York attorney general, suing the world's largest meat company, JBS

- JBS faces a lawsuit in New York for allegedly deceiving customers regarding its climate commitments. This legal action comes on top of a complaint lodged by a coalition of NGOs with the French National Financial Prosecutor's Office late last year against French banks BNP Paribas, Crédit Agricole, BPCE, and AXA. The complaint calls for a criminal inquiry into money laundering and concealment based on the banks' financing of JBS and Marfrig, who failed to adequately prevent the inclusion of cattle from illegally deforested areas in Brazil in their supply chains.



➤ New York state sues PepsiCo over plastic pollution

- Letitia James, the attorney general of New York, is suing the beverage manufacturer and demanding it to decrease the amount of packaging it releases into the Buffalo River and compensate for the harm inflicted on individuals and the environment by microplastics

References: <https://www.ft.com/content/b1457d6f-aaca-49cc-8675-520b6a1166b4>; <https://www.theguardian.com/environment/2024/apr/05/letitia-james-jbs-meat-lawsuit-greenwashing>; <https://apnews.com/article/europe-eu-climate-court-human-rights-3b540a965aff7e2b49f1451c7a328e77>; <https://news.mongabay.com/2023/11/french-banks-accused-of-money-laundering-linked-to-amazon-deforestation/>

Transparency & due diligence regulations are coming

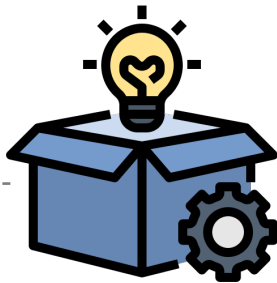


At corporate level

EU : Corporate Sustainability Reporting Directive (CSRD)
Due Diligence Directive

AU : Climate Related Financial Disclosure (CRFD)

RoW : Various regulatory initiatives of the same pattern



At product level

EU : Digital Product passport (DPP)
Deforestation Regulation

AU : National Framework for Recycled Content

RoW : Various regulatory initiatives of the same pattern



And with enforcement

- More public sustainability performance data
- Leaves unsustainable behaviour with nowhere to hide
- And more claims that can & will be scrutinised

So we face a tipping point in the greenwashing battle

There is a significant difference between consumer expectation and market behavior

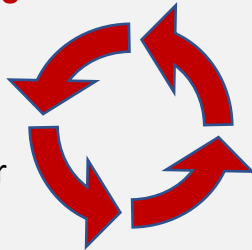
There are **two** plausible pathways out of this:

Either : A race to the bottom

Greenwashing is ubiquitous and undetectable

1. It's easy to fake claims

2. Consumer confidence drops



4. Even genuine businesses must fake claims to survive.

3. Low confidence means no price differential

Or : A race to the top

Greenwashing is rare and has nowhere to hide

1. It's hard to fake claims

4. Businesses compete on quality of claims



2. Consumer confidence improves

3. Higher prices are justified

When verifiable evidence is linked to product level sustainability claims, then businesses can meet due diligence obligations, reduce reputational risk, and accurately compute and improve corporate disclosures including scope 3 emissions

Incentives are then aligned to transition to a sustainable economy

Traceability & Transparency at scale is hard



Graveyard of failures like TradeLens, WeTrade, Everledger, and many more



Blockchain has been over-hyped and has no significant value for supply chain transparency

The Complication

<https://www.maersk.com/news/articles/2022/11/29/maersk-and-ibm-to-discontinue-tradelens>

<https://www.gtreview.com/news/fintech/we-trade-calls-it-quits-after-running-out-of-cash/>

<https://www.afr.com/technology/government-and-tencent-backed-aussie-blockchain-firm-collapses-20230503-p5d58l>

The Resolution

Protocol over platform – the UNTP

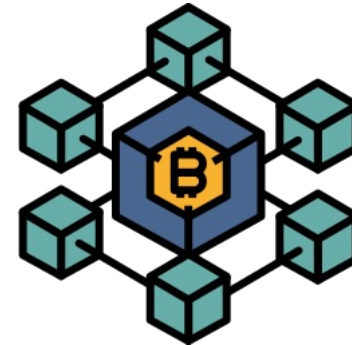
	Challenge	Solution
1	Plethora of traceability platforms	Pick one that conforms to the UNTP
2	Few business incentives	Product passport as a bundle of differentiated value – including scope 3
3	Due-diligence obligations	Verifiable conformity evidence via conformity credentials
4	Commercial confidentiality	Privacy tools including selective redaction
5	Unequal digital maturity & adoption	Implementation without system-to-system dependency
6	Compatibility with existing identifiers	Leverage existing identifiers and link resolvers
7	A confusion of ESG standards	A scalable semantic mapping architecture
8	Identity, counterfeiting, mass balance fraud	Trust graphs and trust anchors

Challenge #1 – a plethora of platforms

Depending on your value chain partners to choose the same traceability & transparency platform as you is like saying “I can trade with anyone so long as they have an account at my bank”. It cannot work at scale.



There are many banks
But you can move funds easily

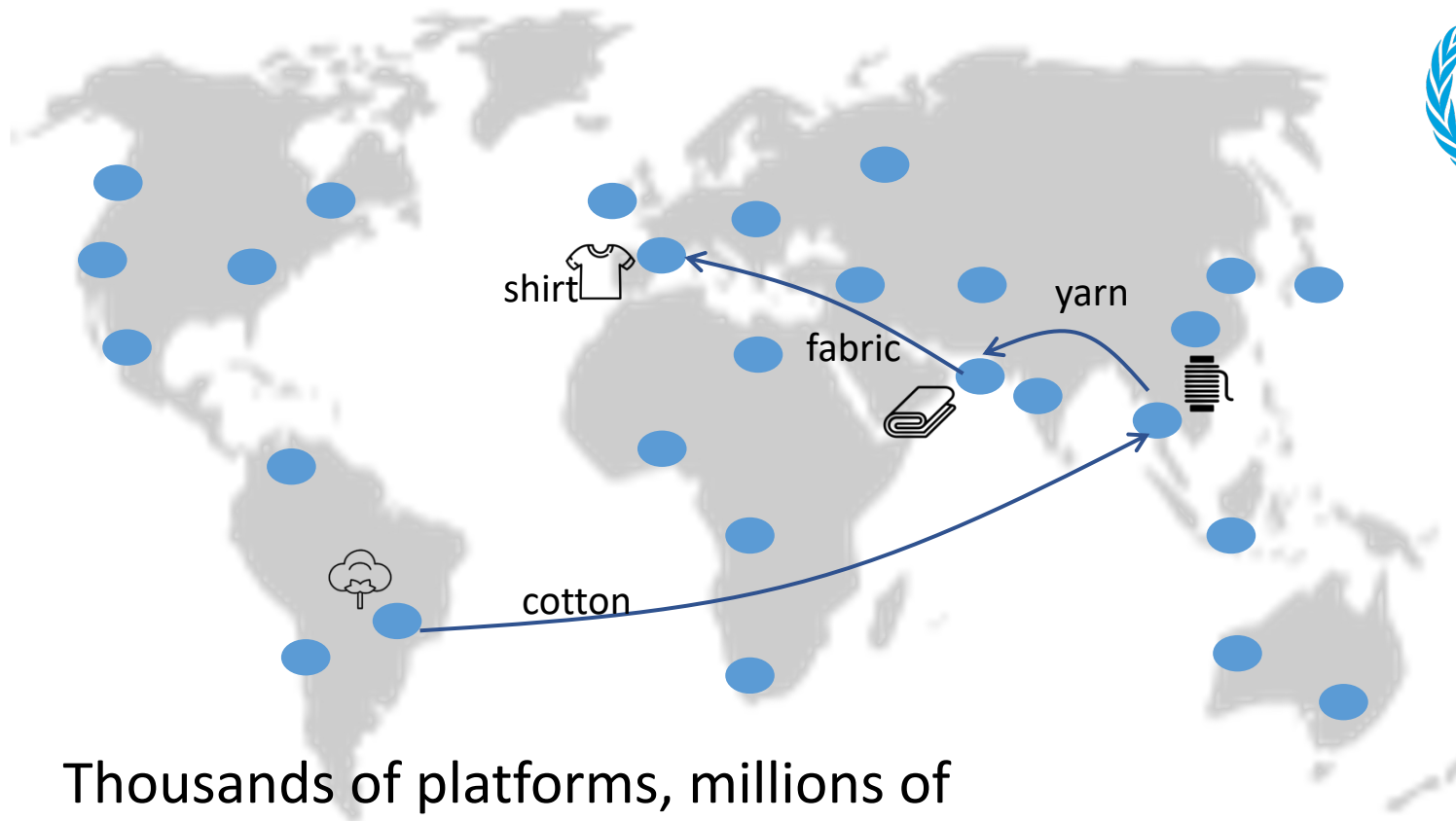


There are many blockchain platforms
But they are islands

#1 – UNTP is an interoperability protocol, not a platform

Leave data where it is but link it together when needed using decentralised events.

Use any software you like – so long as it conforms to UNTP.



Based on
GS1 EPCIS

Thousands of platforms, millions of value-chains, billions of transactions

UNTP Traceability Event

Sensor data

Event types

Object (*inspect, test, ..*)

Transaction (*sell, ship, transfer,..*)

Transformation (*manufacture,..*)

Aggregation (*consolidate, bundle,..*)

Association (*assemble, package,..*)

Product ID

(*quantity, item, batch*)

Location ID

(*facility, farm, etc*)

Party ID

(*legal entity*)



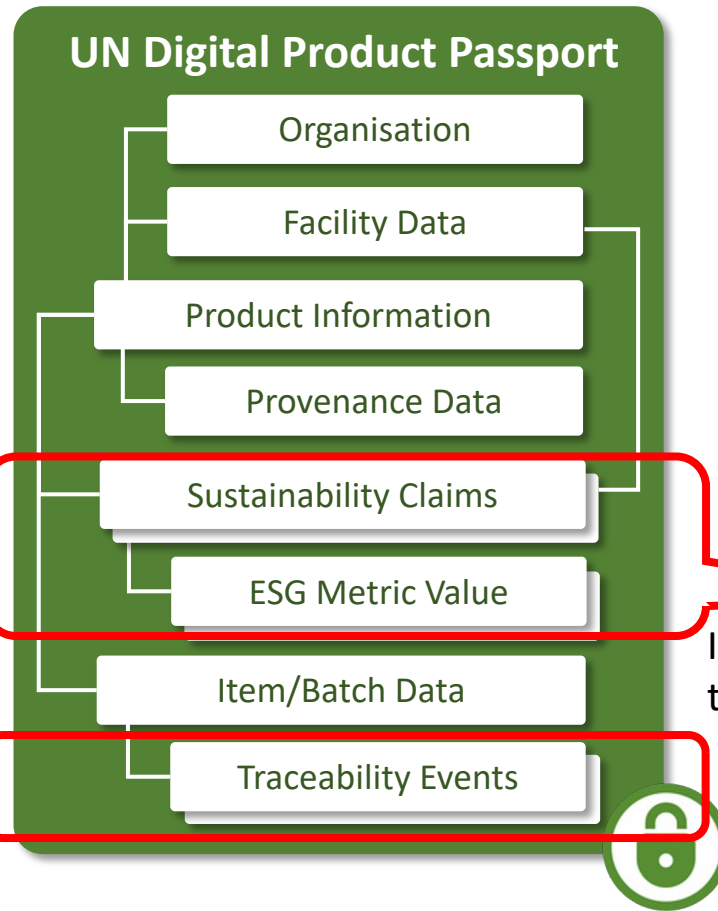
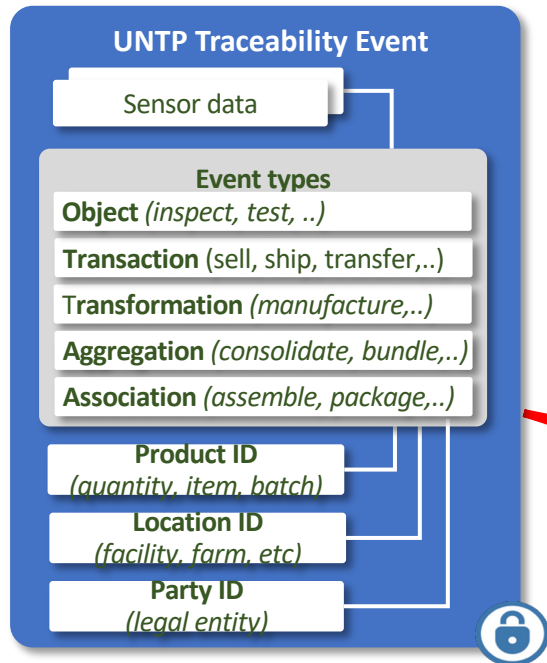
Challenge #2 – business incentives

Common industry practice today is to use industry averages for upstream supply chain sustainability performance. But this effectively remove all incentives. Why would an upstream supplier improve product sustainability downstream buyers don't differentiate?

#2 – The UNTP passport is a bundle of differentiated value

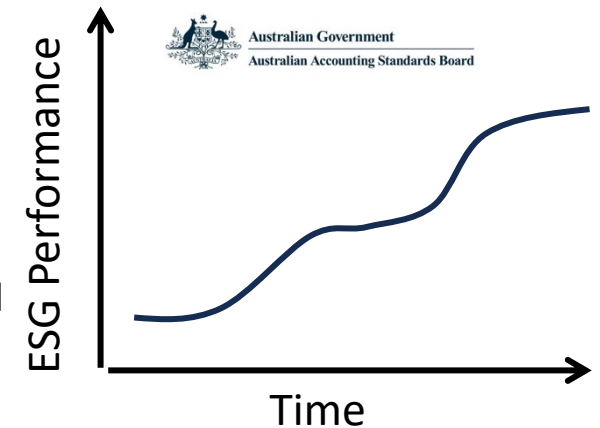
ESG performance can only improve with informed and differentiated supply decisions. DPP claims are categorised for easy IFRS mapping.

There's a passport for every goods shipment



UNTP

Sustainability disclosures

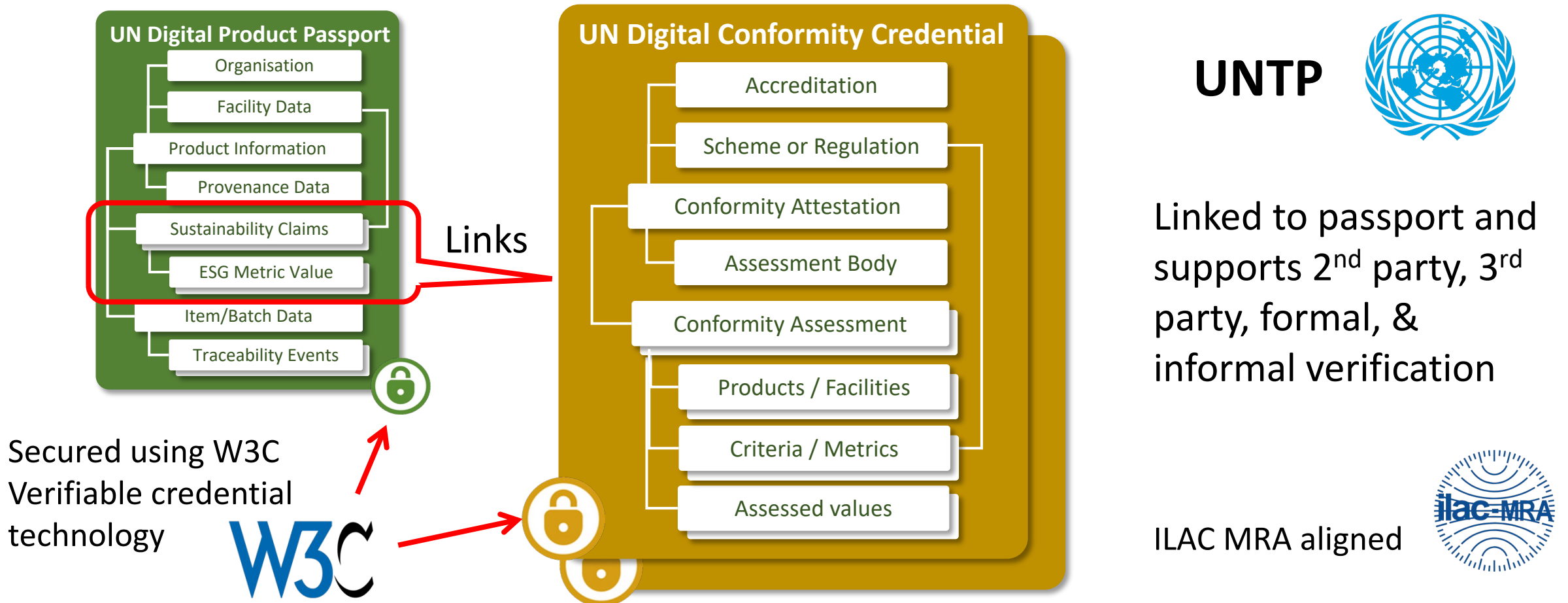


Challenge #3 – greenwashing & due-diligence

Greenwashing is already endemic. Differentiated supply decisions will provide even stronger incentives to make false claims. Due diligence regulations may impose liabilities on organisations for false claims from their suppliers. How to add sufficient trust to the system?

#3 – UNTP includes verifiable conformity evidence

Digital product conformity credential - developed in conjunction with national accreditation authorities and conformity assessment bodies.



Secured using W3C
Verifiable credential
technology



UNTP



Linked to passport and
supports 2nd party, 3rd
party, formal, &
informal verification

ILAC MRA aligned

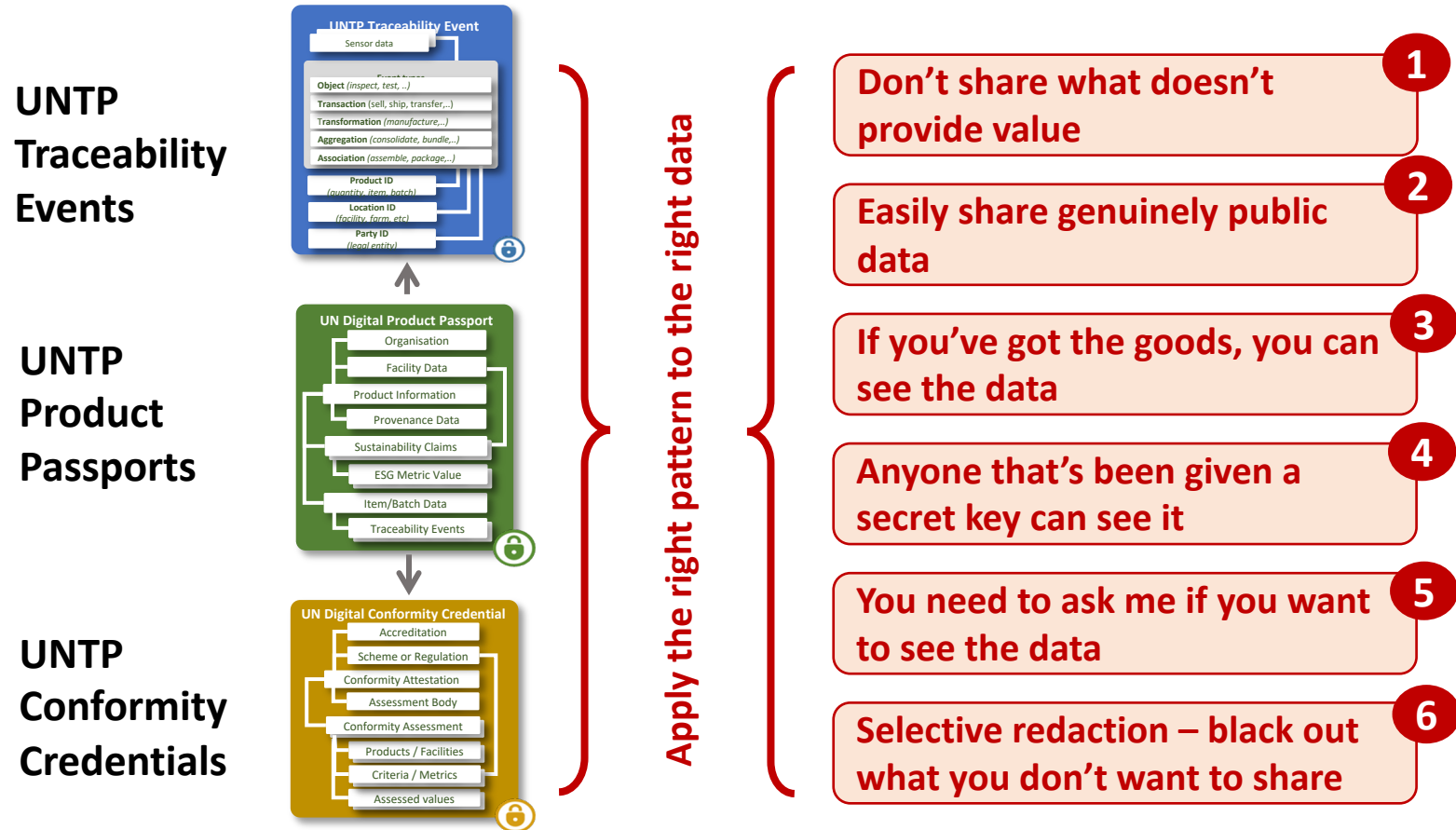


Challenge #4 – commercial confidentiality

Whilst “sunlight is the best auditor”, increased transparency also increases risk of leakage of commercially sensitive information. What one party considers confidential, another may not.

#4 – UNTP includes a privacy & security toolkit

Six tools that allow UNTP implementers to choose their own balance between confidentiality and transparency.



UNTP

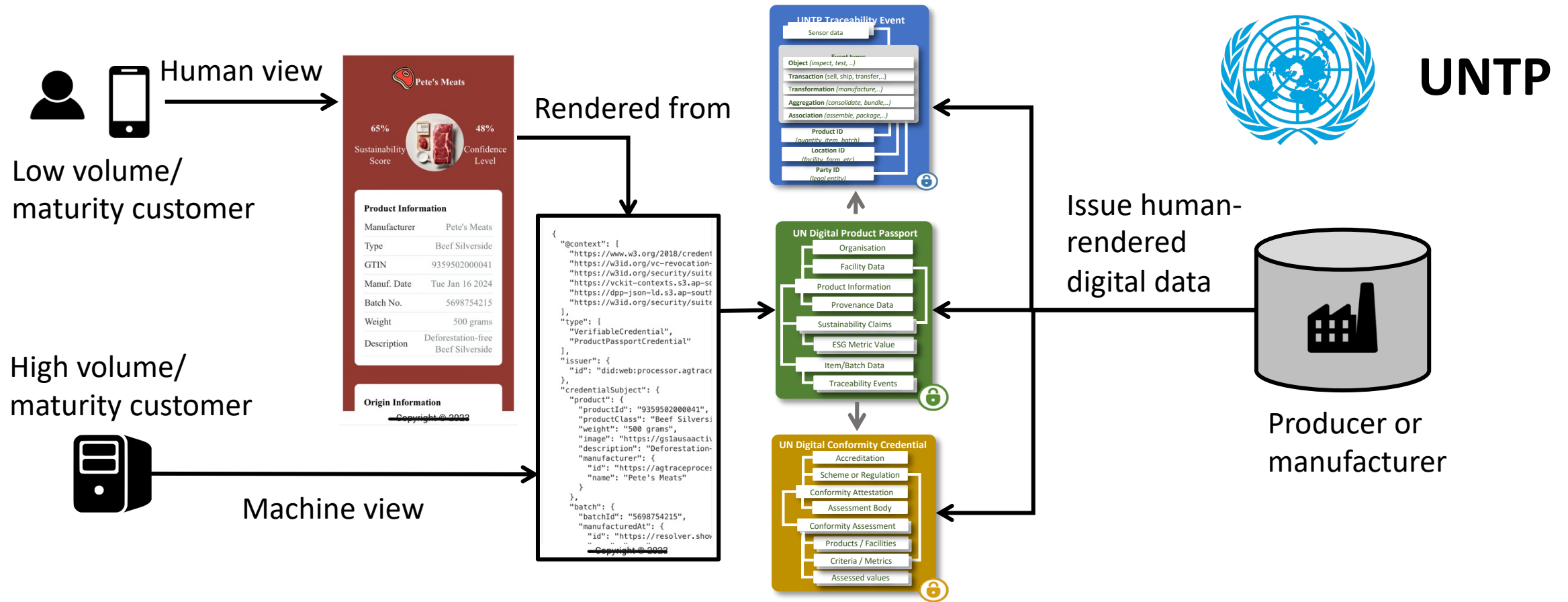
Different data needs different levels of protection.

Challenge #5 – unequal digital maturity and adoption

UNTP is a digital protocol. If it only worked when every supply chain actor is digitally mature and connected, then nobody would start.

#5 – UNTP allows implementation without dependency

The same UNTP data is always BOTH human and machine readable. So implementers can go digital without dependency on other's maturity.

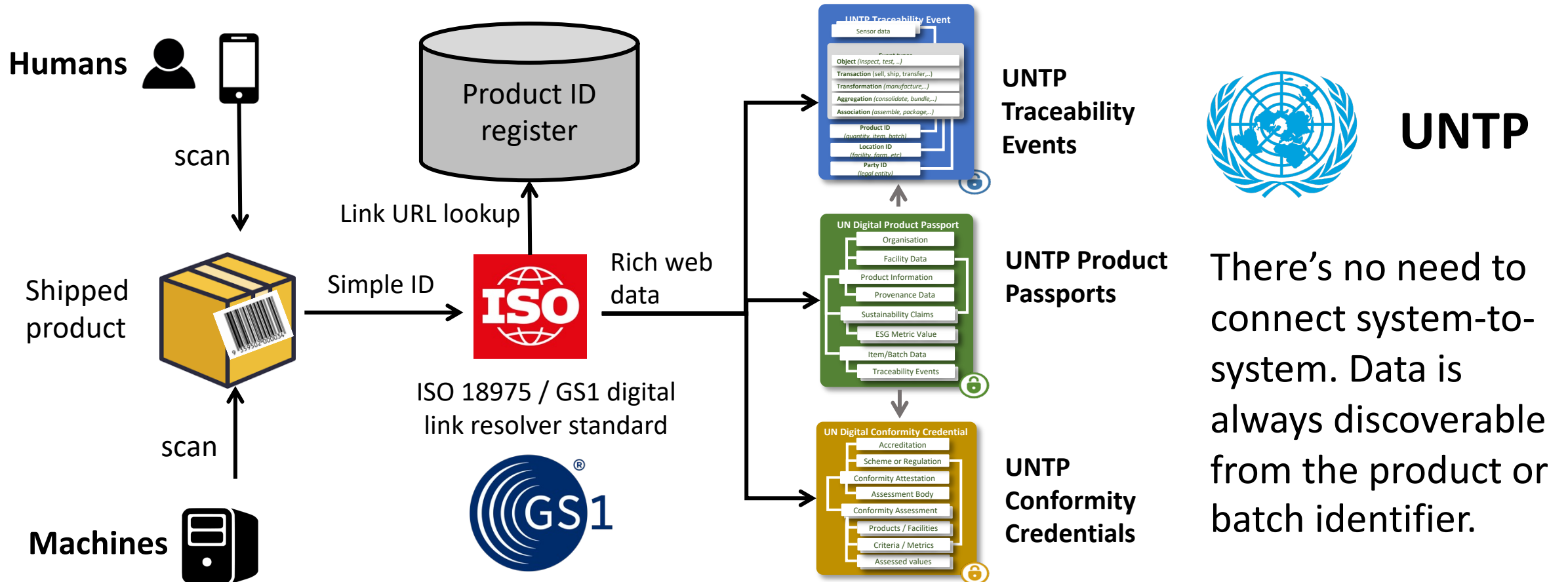


Challenge #6 – compatibility with existing identifiers

Industry uses well established identifier schemes (eg GS1 GTINs) that one actor cannot change without impacting others. Imposing any transparency scheme that requires new product identifiers or registers would present an enormous barrier.

#6 – UNTP leverages existing identifiers and link resolvers

Rich UNTP data is linked-to and discoverable-from existing industry identifiers, even when they are simple 1-D barcodes.

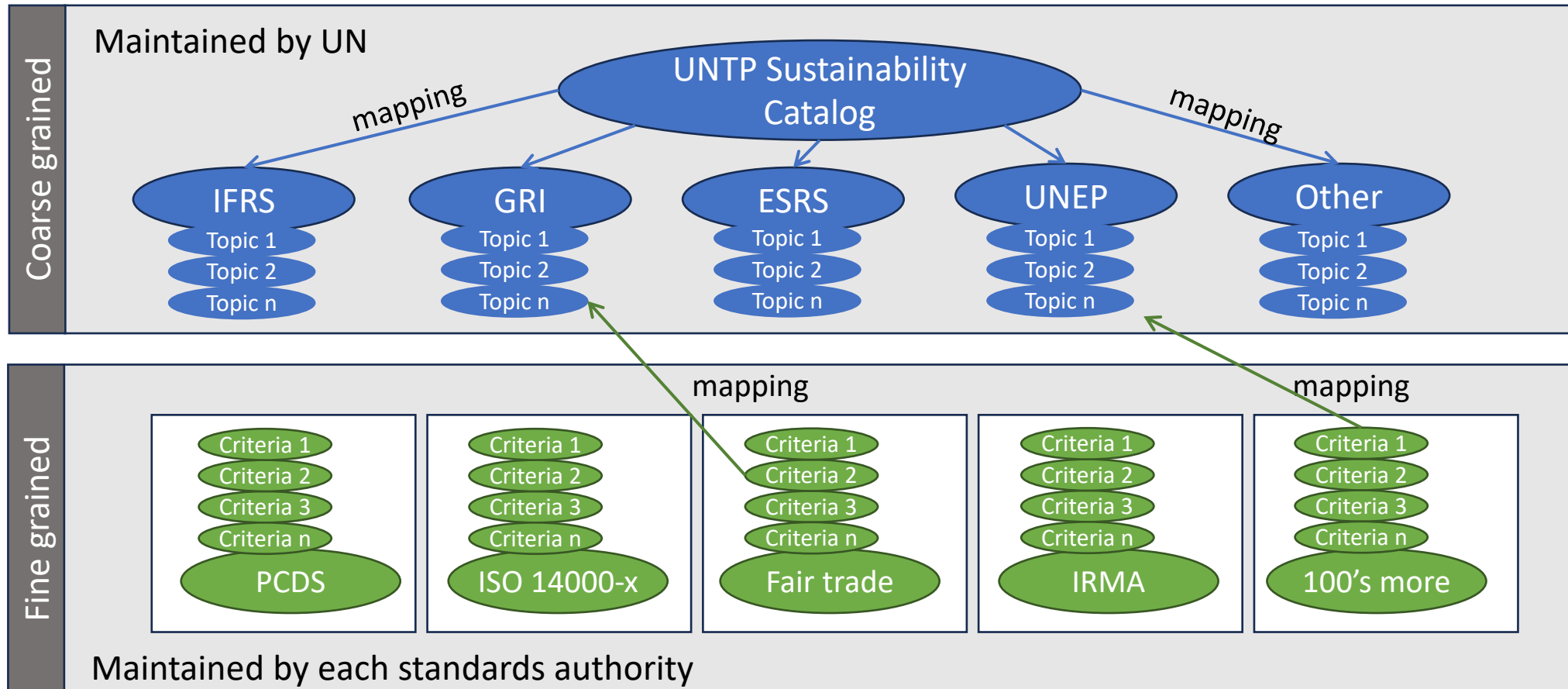


Challenge #7 – mapping different ESG claims

There are dozens of ESG classification schemes (IFRS, ESRS, GRI, UNEP, etc) and hundreds of ESG standards / specifications, each with multiple criteria. Any given claim in a DPP or assessment in a conformity credential will typically be made against any one of thousands of standard criteria and may (or may not) be classified using any one of dozens of schemes. In this complexity, how can consumers of passport data make any sense of the sustainability claims?

#7 – ESG Vocabulary mapping architecture

UNTP maintains a coarse-grained catalog (using W3C DCAT and SKOS) that maps well established vocabularies so that when any credential maps their claims to any vocabulary then they can be universally understood.



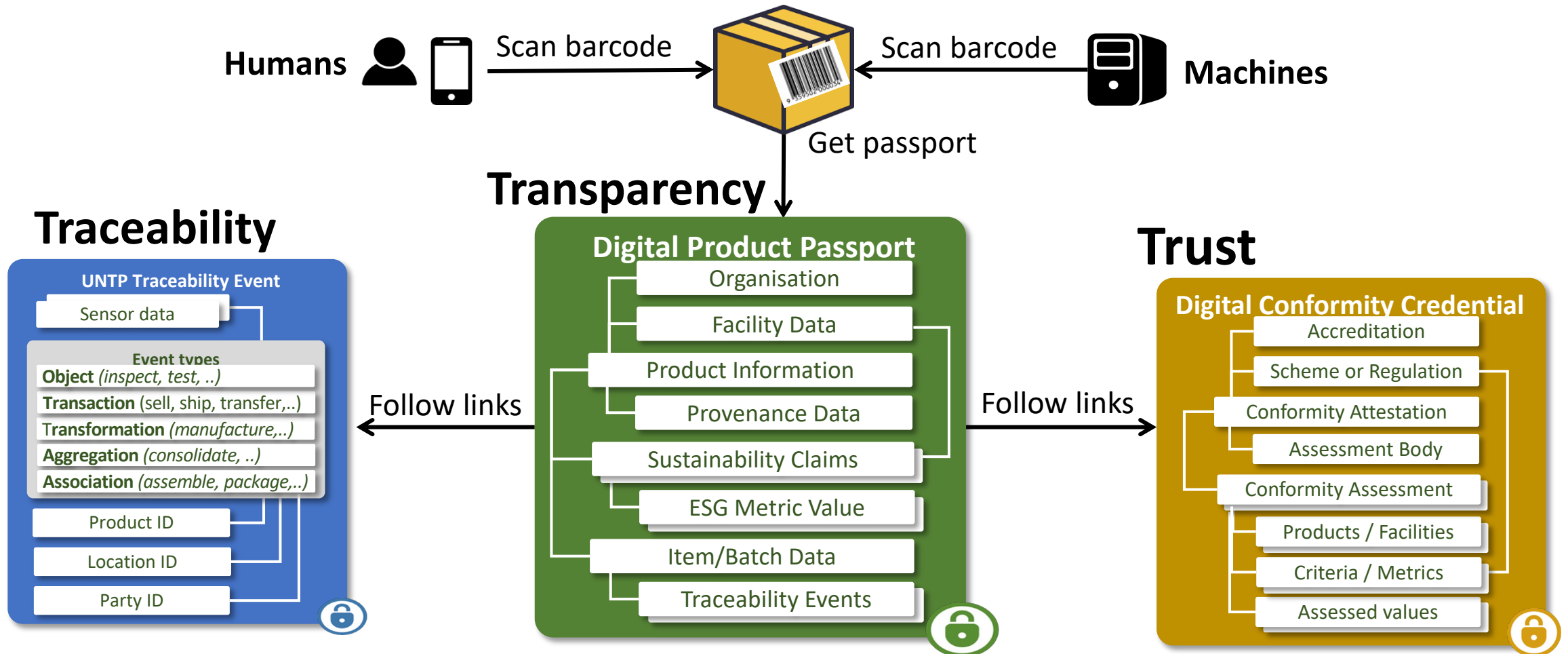
And there's more challenges

- #8 – Managing identity fraud.
- #9 – Counterfeiting
- #10 – Mass balance fraud

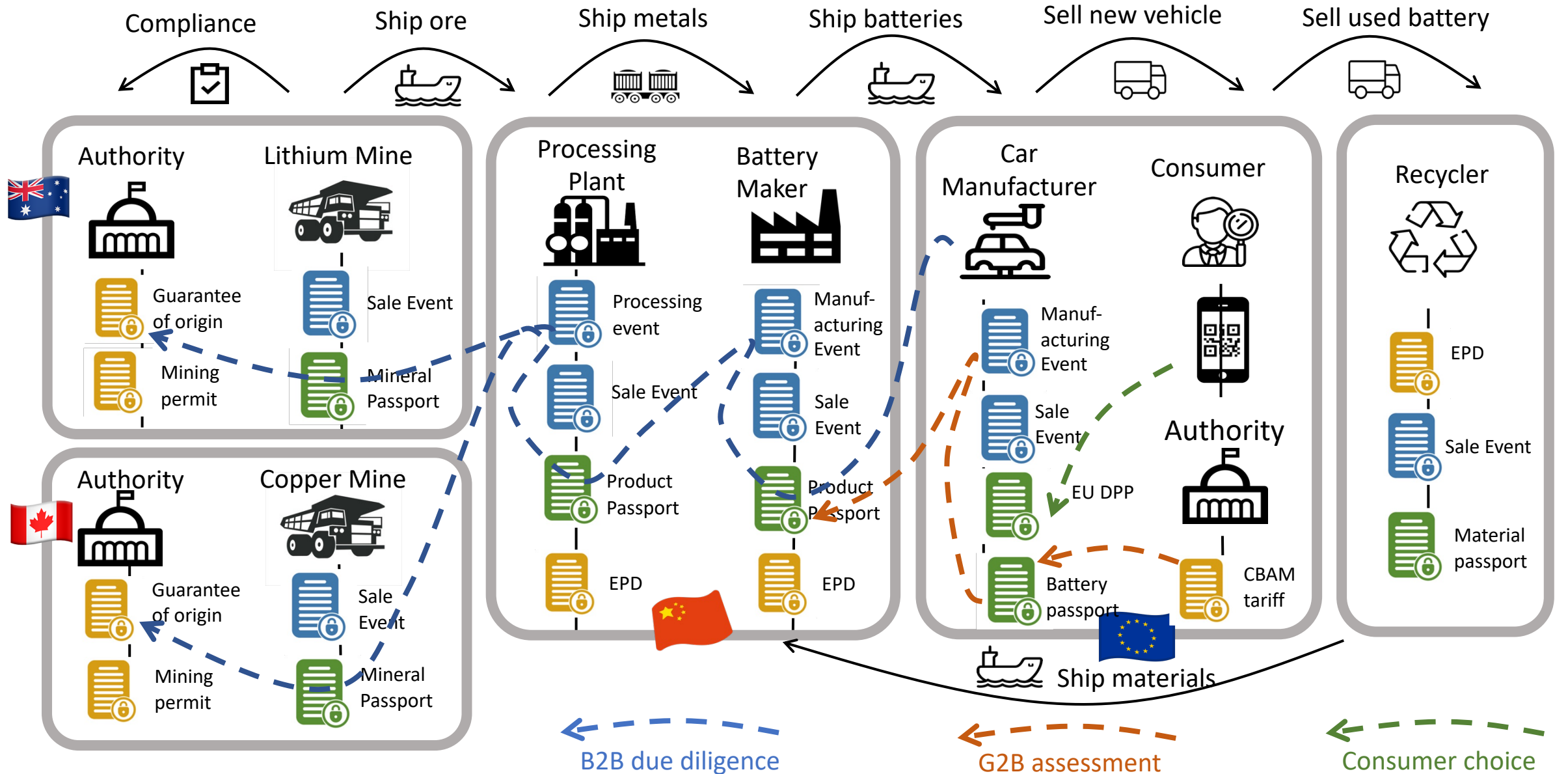
We've thought about these challenges and will add some optional extra tools to UNTP to address them.

Putting it together – what each implementer does.

Issue a DPP for each product you ship and optionally attach conformity credentials and traceability events. Make the data discoverable from the product ID.



Puttin it together – entire value chain perspective



Context

Why UNTP? What about other DPPs?

There are many similar initiatives happening around the world. Some are regulatory mandates, and some have strong industry support. Why should I implement UNTP?

1. Cross-border upstream focus complements regulatory initiatives
2. Cross-industry core supports industry sector initiatives.
3. Complete yet simple solution with a lot of reusable capability.

UNECE ran textile traceability pilots 2021-2023

Cotton Pilot

- Cooperatives/farms/traders ■ 2
- Manufacturers/suppliers ■ 21
- Brands/Retailers ■ 4
- Standard-setting bodies ■ 2
- Academia-think tanks/Plat. ■ 4
- DNA marker provider ■ 1
- IOs ■ 3

UNECE Pilot Leadership



> 60 Pilot partners
End-to-end VC traceability



15 Countries in
Africa, Asia, Europe,
North and South America

UNECE Traceability & Transparency Blockchain pilot



Username:

Password: Show password

Login

Leather Pilot

- Raw Material prov./traders
- Manufacturers/suppliers
- Brands /Retailers
- Certification bodies
- Industry associations
- Ceramic marker provider
- NGOs
- IOs
- R&D and testing centre

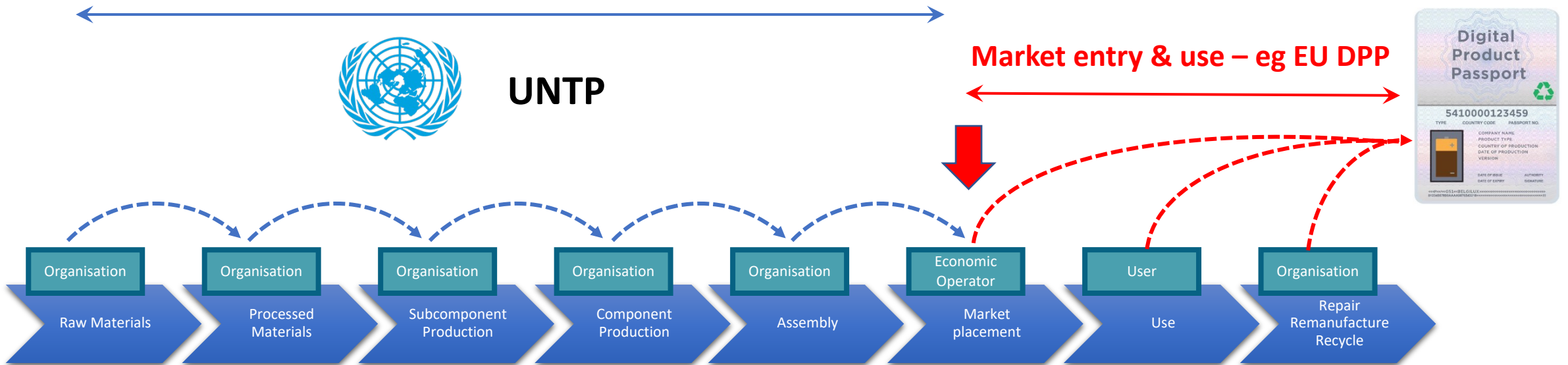


Which taught us many of the scalability challenges we've discussed today.

Every regulated market has cross-border supply

UNTP is complementary to regulatory product passports – it provides the high integrity upstream data feedstock to inform regulatory passports.

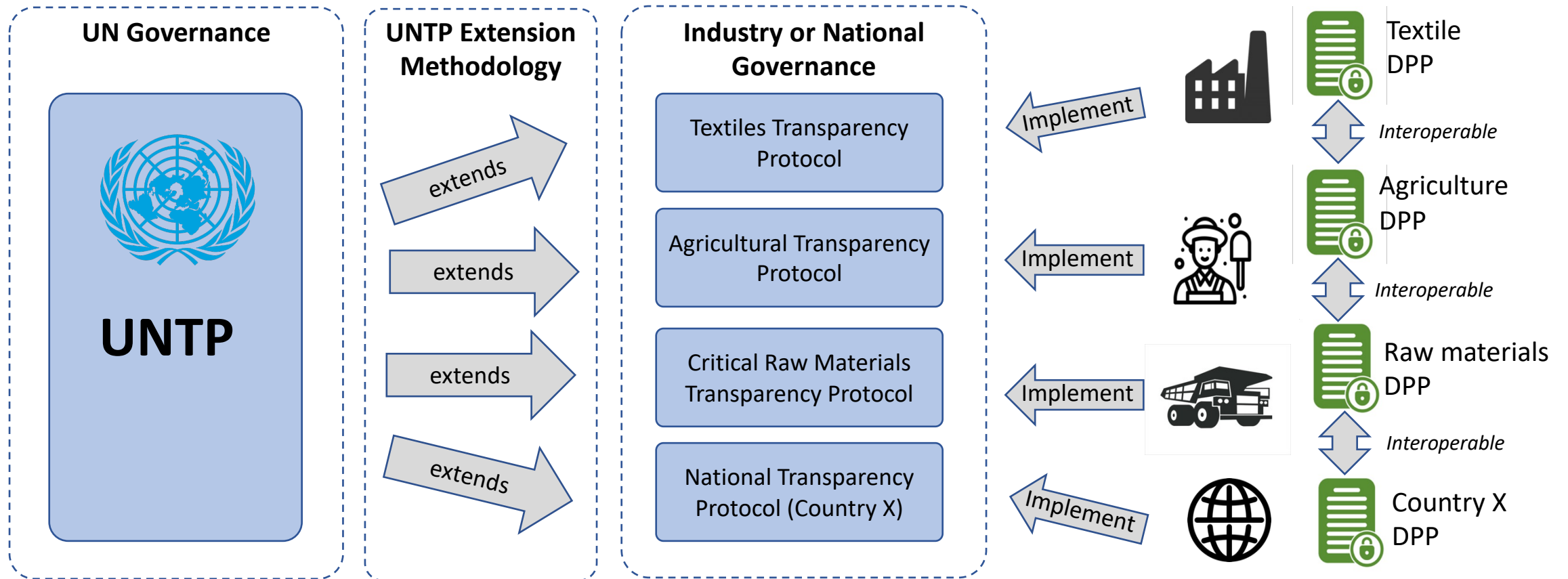
Upstream traceability and transparency – UN DPP



Funded by
the European Union

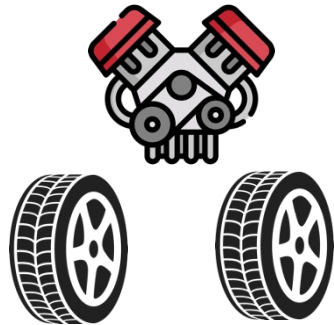
Every industry needs supply from other sectors

UNTP provides a cross-industry re-usable “core”. Industry can create non-breaking extensions that suit their needs whilst maintaining **cross-industry interoperability**.



A complete solution and simpler than you think

Other standards may include some useful parts – but leave you to assemble them.



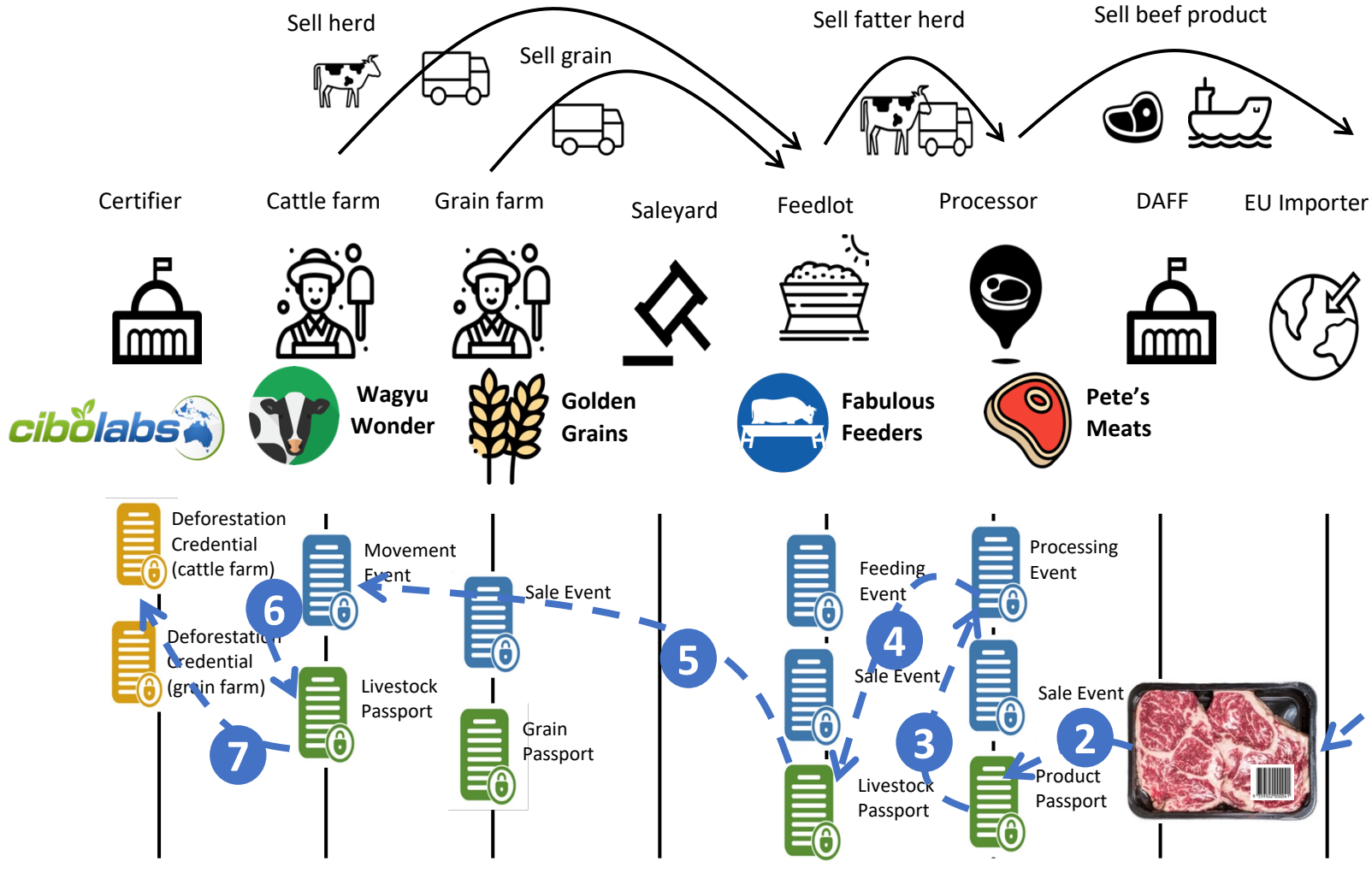
UNTP is a complete standard designed to address all the challenges you will face.



UNTP

There is some new-ish technology involved (e.g. verifiable credentials) but it solves real problems and is simple to implement (e.g. 9 lines of code in the Australian pilot)

The Australian Agriculture UNTP pilot is an example



Take out your phones and scan this QR to get the sample link resolver app.



Then scan this GTIN barcode on the meat product and follow the linked data trail

Pilot Implementations that can scale

June 2023

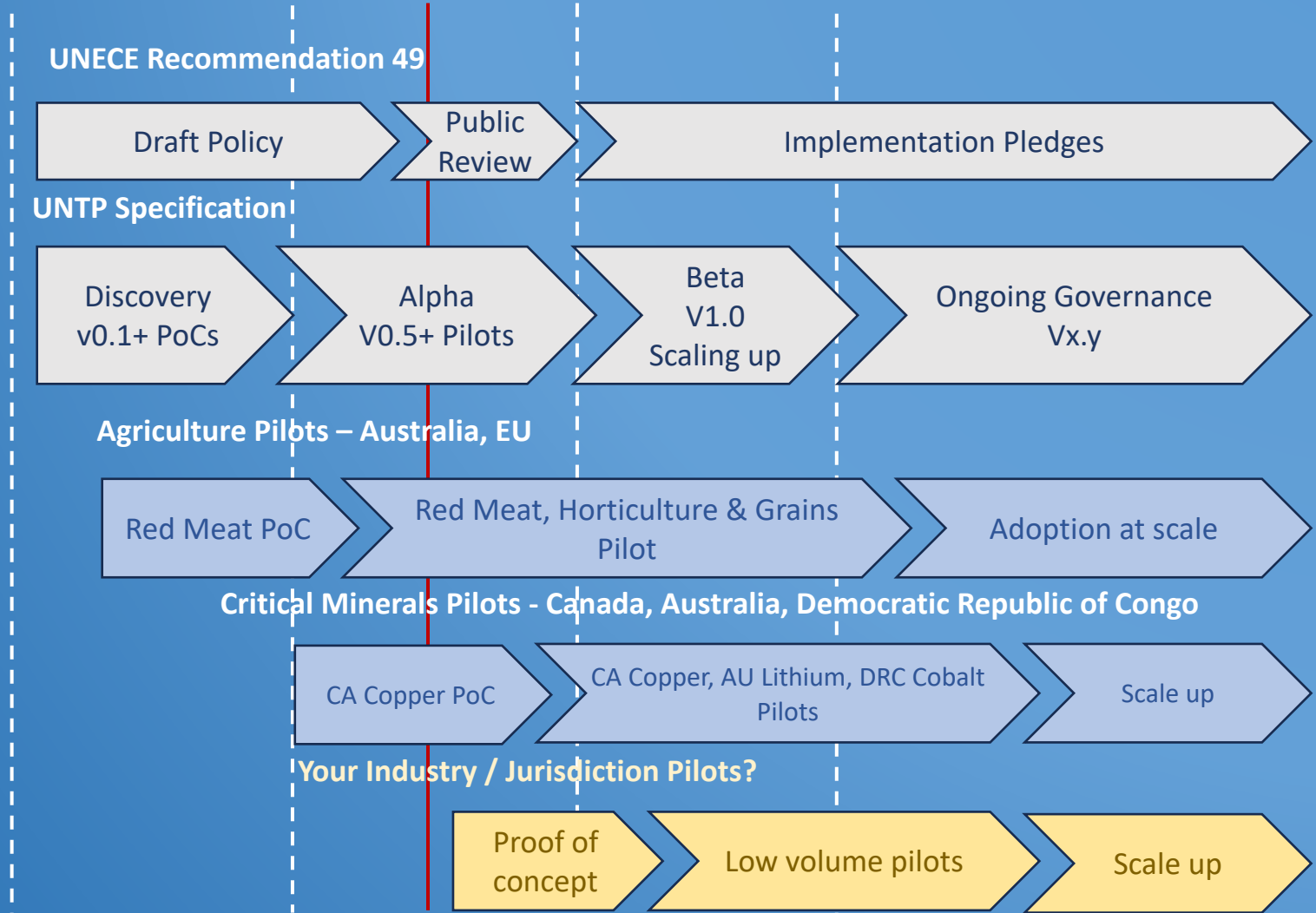
Dec 2023

Today

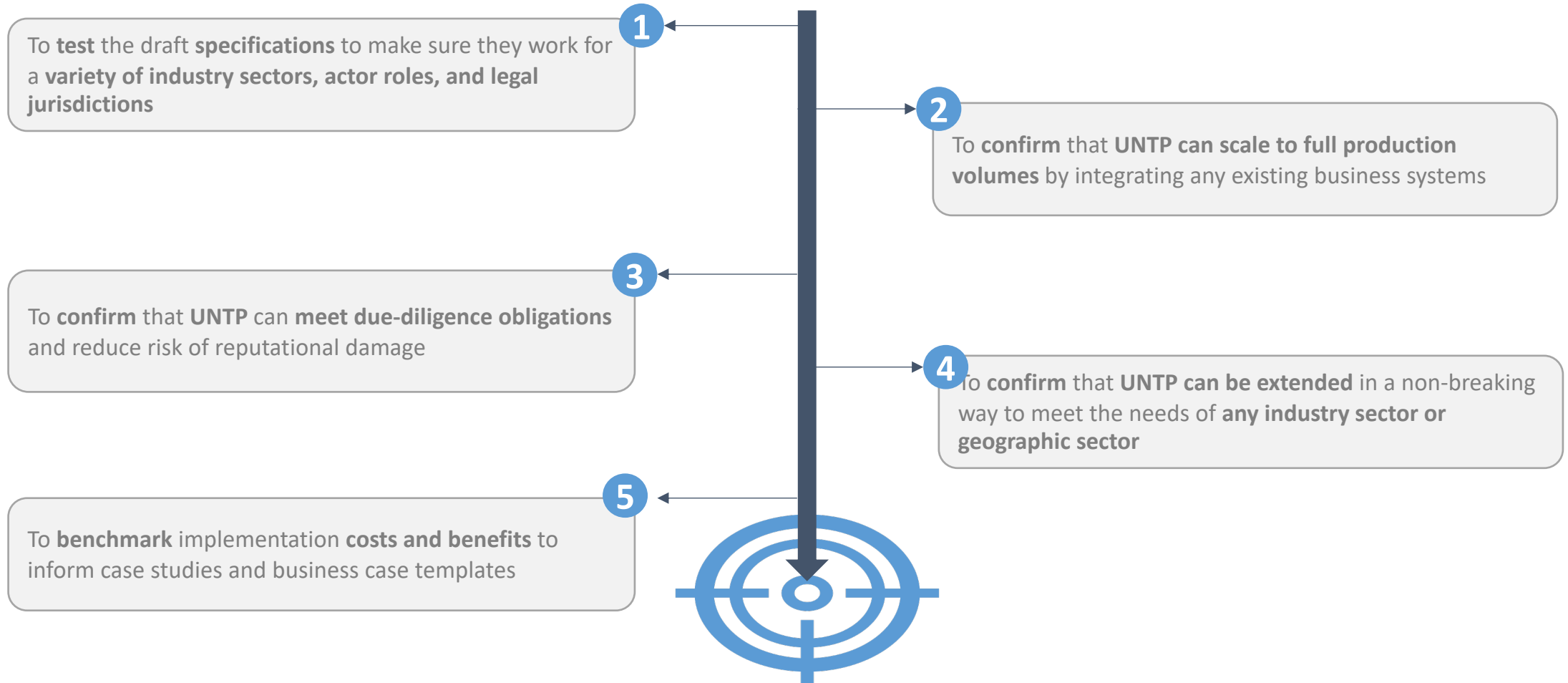
July 2024

Dec 2024

What Next?



What are the UN goals for UNTP pilots?



What are the benefits for participants?



To have the opportunity to **contribute** to the **shaping of the standards** (via participation in the open development process)



To have the opportunity to **market** your **products via a public UN sustainability pledge** and list of conformant implementations



To **implement** a low volume **pilot** that can **seamlessly scale** to full volume production



As a seller, to **meet market access requirements** for products exported to increasingly regulated markets



As a seller, to **differentiate products** based on verifiable sustainability performance

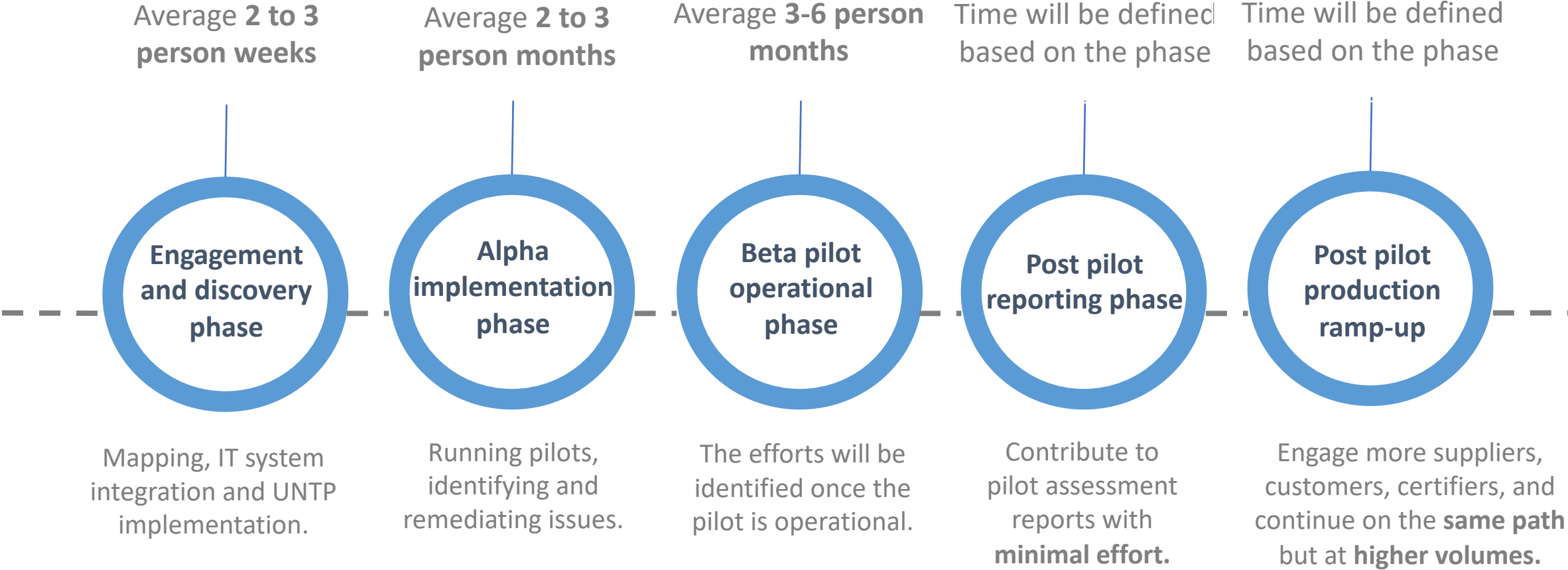


As a buyer, to **receive sustainability data** at the right granularity (to aggregate for corporate disclosures) and **with the right integrity** (to meet due diligence obligations)

What are the obligations for participants?

- ✓ To help **identify** and **engage** other **actors** in your ecosystem including your upstream suppliers, your downstream customers, your conformity assessment bodies, and your software vendors
- ✓ To **map** your existing **business systems** to **UNTP** specifications and **build working integrations** that pass interoperability **testing**
- ✓ To **register your sustainability pledge** and (once implementation testing is complete) your conformant implementation
- ✓ To **keep pilot systems running** for sufficient time **to test** end-to-end supply chain traceability and transparency **with other actors in your ecosystem**
- ✓ To **contribute to pilot assessment reports** including **technical** issues and business **cost/benefit analysis** (subject to your confidentiality constraints).

What is the estimated time & effort?



What do I need to do as a UNTP implementer? (1)

Producers, manufacturers, retailers

- **Issue** UN Digital Product Passports (**DPPs**) with **sustainability claims** as digital verifiable credentials (**VCs**) from your **existing** business **system(s)**
- **Issue Traceability Events** as **VCs** with links to **upstream products** (subject to confidentiality constraints)
- **Receive** digital product conformity credentials (**DPCC**) from your **conformity assessment** bodies
- **Publish DPPs, Events, and DPCCs** using a **link resolver** service so that they are discoverable from your product identifiers (SKU or batch)
- Discover and **verify DPPs linked to your supplies** from **upstream** suppliers

Industry Associations

- **Map** your **industry standards to UNTP** (and/or and existing registered extensions) and **identify** whether any additional **extensions** are **needed**
- **Develop extensions** following the extensions methodology and register the extension
- **Assess** opportunities for **bulk purchase of conformity assessment services** for **smaller members**
- **Assess** opportunities for provision of **mass balance verification services to your members**
- **Support** your **members** with their **UNTP (or extension) implementations**

Conformity assessment bodies

- **Issue conformity attestations** as Digital Product Conformity Certificates (**DPCC**)
- **Engage** your **accreditation authorities** and **request digital accreditation credentials**. **Link** them to your **conformity credentials**
- **Engage** with the issuers of your **reference standards** or regulations to **publish** their **conformity criteria** as **digital vocabularies**

What do I need to do as a UNTP implementer? (2)

Regulators

- As **business registration authorities** – consider issuing registration credentials (e.g. business identity) as **verifiable credentials**
- As **land/property registration authorities** – consider issuing land titles with cadastral boundaries as **verifiable credentials**
- As **trade/ export facilitation authorities** – consider issuing **guarantee of origin credentials** that will help importing authorities to trust your exports
- As **customs authorities** – consider using **DPPs as high integrity data sources** to reduce piggybacking and facilitate green-lane import processing
- As **environment/agriculture/labour competent authorities**, consider **publishing regulations as digital vocabularies** and issuing licenses and permits as **verifiable credentials**

Business/Location/Product registers

- **Uplift your registry service** so that your **identifiers are discoverable, resolvable and verifiable**:
 - a) **Discoverability** requires consistent encoding as barcodes, QR codes, or RFID
 - b) **Resolvability** requires implementation of ISO-18975 conformant link resolver service
 - c) **Verifiability** requires issuing evidence of identifier ownership to registered entities as verifiable credentials

Software Vendors

- **Implement the UNTP profile** that most suits your customers so that their **cost of implementation is shared** across all your customers
- **Complete interoperability testing** and **register your conformant products**

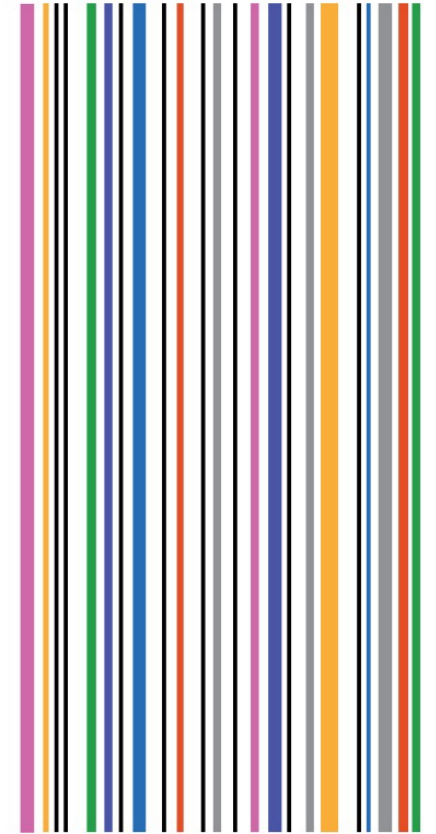


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<https://uncefact.github.io/spec-untp/>



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