data sans frontiers

Digital product passports and credentials for sustainability-fueled market access

Prof. David Lamb
Chief Scientist, Food Agility CRC
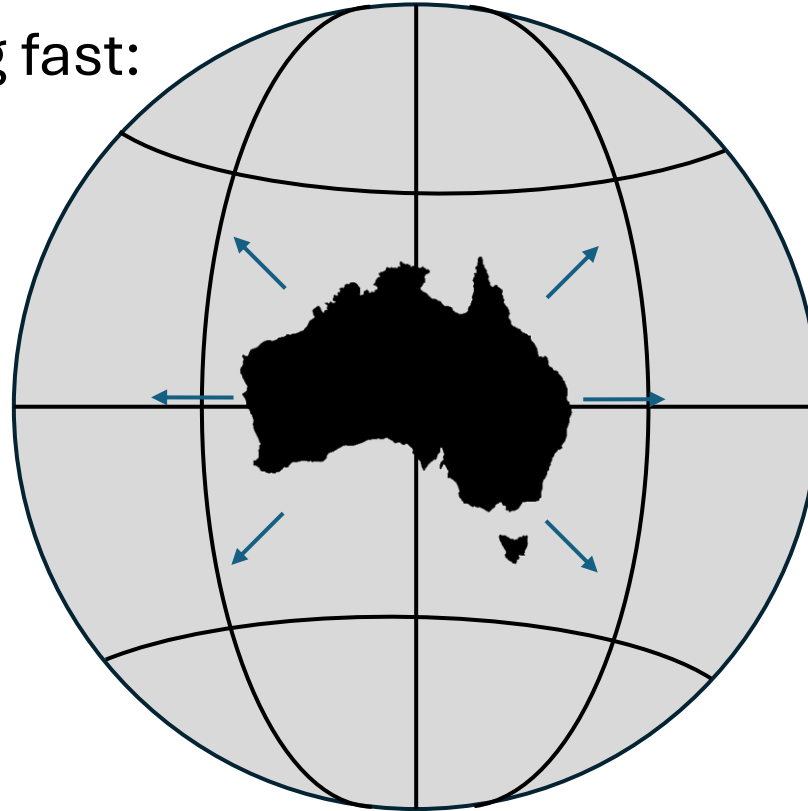
Opportunity and cost

Market frontiers expanding fast:

- Consumers prefer good ESG practises BUT may NOT meaningfully alter purchase decisions[1]

Information frictions include:
- Information to ensure accessibility and credibility[2]

1. Leonelli, S., Muhn, M., Rauter, T., Sran, G. (2025 In Press), *Journal of Accounting and Economics*, 101811, n = 24,000
2. Gipper, B., Ross, S., & Shi, S. X. (2024). *Review of Accounting Studies*, 1-51.
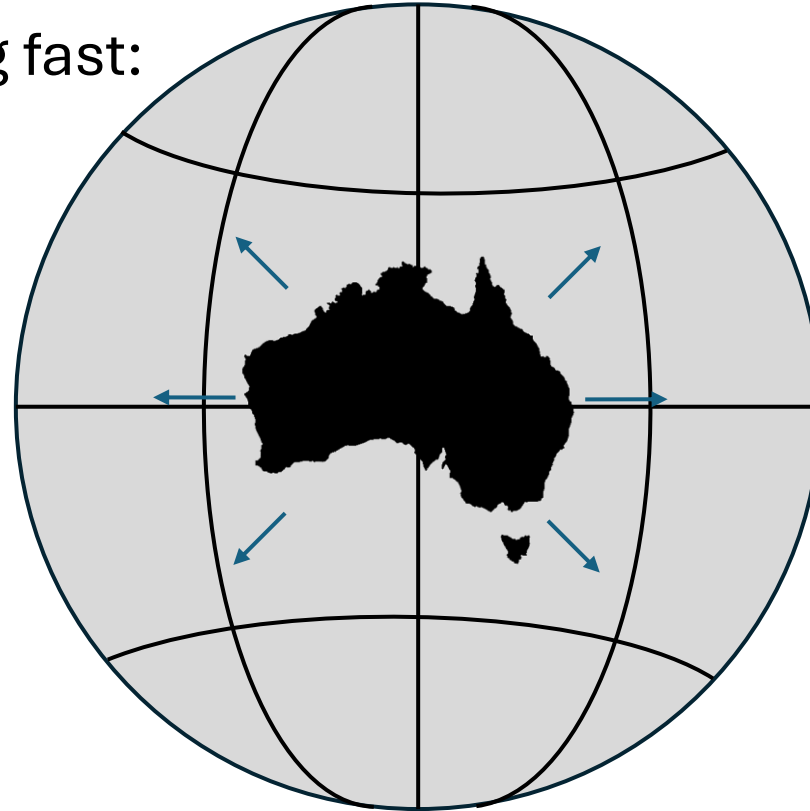
Opportunity and cost

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...malfeasance a hard rider

- Globally, greenwashing cases appear in decline
- High-risk incidents rising ~10%+ year on year
- **Consumer vigilance/awareness increasing[3]**

1. Leonelli, S., Muhn, M., Rauter, T., Sran, G. (2025 In Press), *Journal of Accounting and Economics*, 101811, n = 24,000
2. Gipper, B., Ross, S., & Shi, S. X. (2024). *Review of Accounting Studies*,1-51.
3. RepRisk (Oct 2024) www.reprisk.com (Zurich)

Transparency at scale...

Recommendation 49: Transparency at Scale- Fostering Sustainable Value Chains
31st United Nations Centre for Trade Facilitation and Electronic Business (UN/CEFACT), July 2025

UNECE

UNECE, 31st Plenary, 2025 Reproduced with permission

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Transparency at scale...

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Recommendation No. 49 will support the development
of **Digital Product Passports (DPPs)**

- Verifiable
- Machine-readable
- ESG data

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- Verifiable
- Machine-readable
- ESG data

Supporting instrument → **United Nations Transparency Protocol (UNTP)**

- Decentralized, open, and technology-neutral protocol
- Allows companies, certifiers, and regulators to exchange ESG data securely and verifiably.

UNTP meets AATP

Common core ⟶ Industry-specific extensions

UN Governance

UNTP

UNTP Extension Methodology

extends →
extends →
extends →
extends →

Industry or National Governance

Textiles Transparency Protocol

Agricultural Transparency Protocol

Critical Raw Materials Transparency Protocol

National Transparency Protocol (Country X)

Implement

Textile DPP

Interoperable

Agriculture DPP

Interoperable

Raw materials DPP

Interoperable

Country X DPP
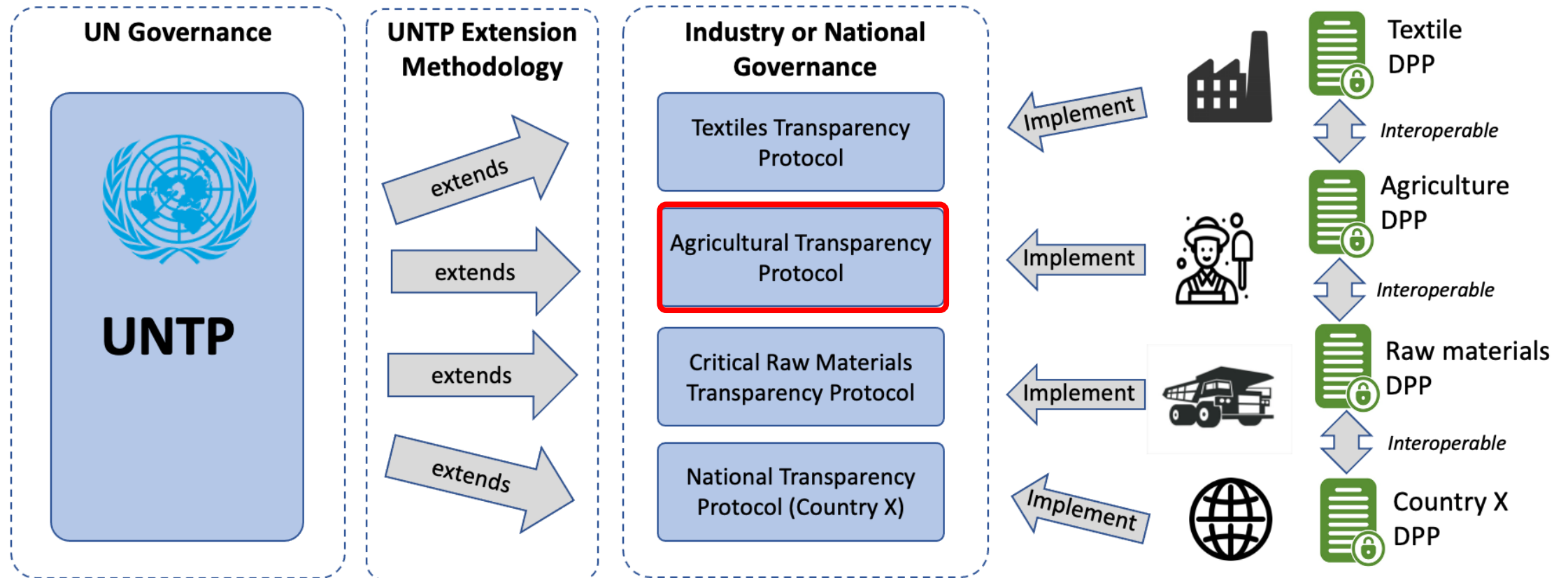
A future state where…

Every Australian product to market will have a
Digital Product Passport

1. **Facilitates market access**
2. **Industry-led, regulator ready**
3. *Minimum govt interaction (ie B2B)*
4. **Scalable/Accessible/Useable**
5. **Producer focused/Permissions based**
6. **Incentivizes use**
7. **Low cost**

AATP

(UNTP)

Any product
Any claim
Any market
Any system

Australian Government
Department of Agriculture, Fisheries and Forestry

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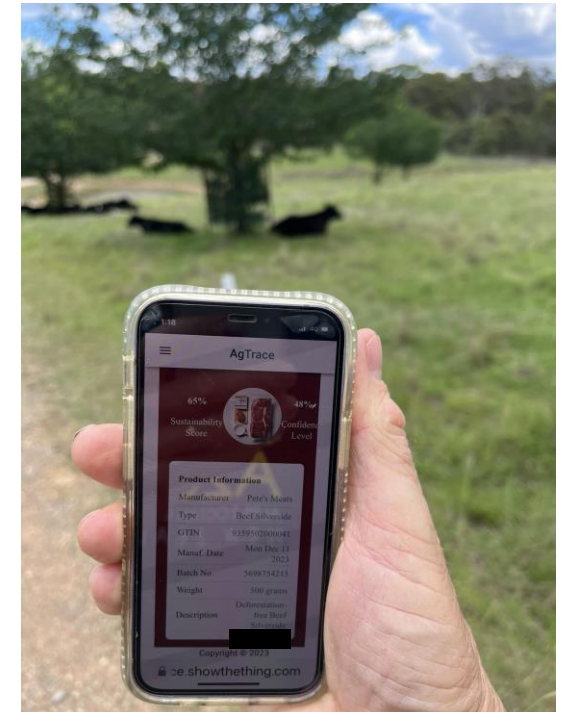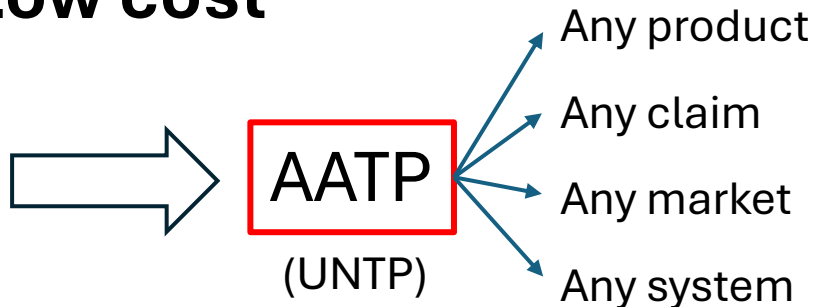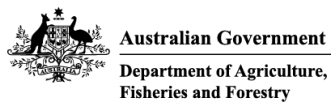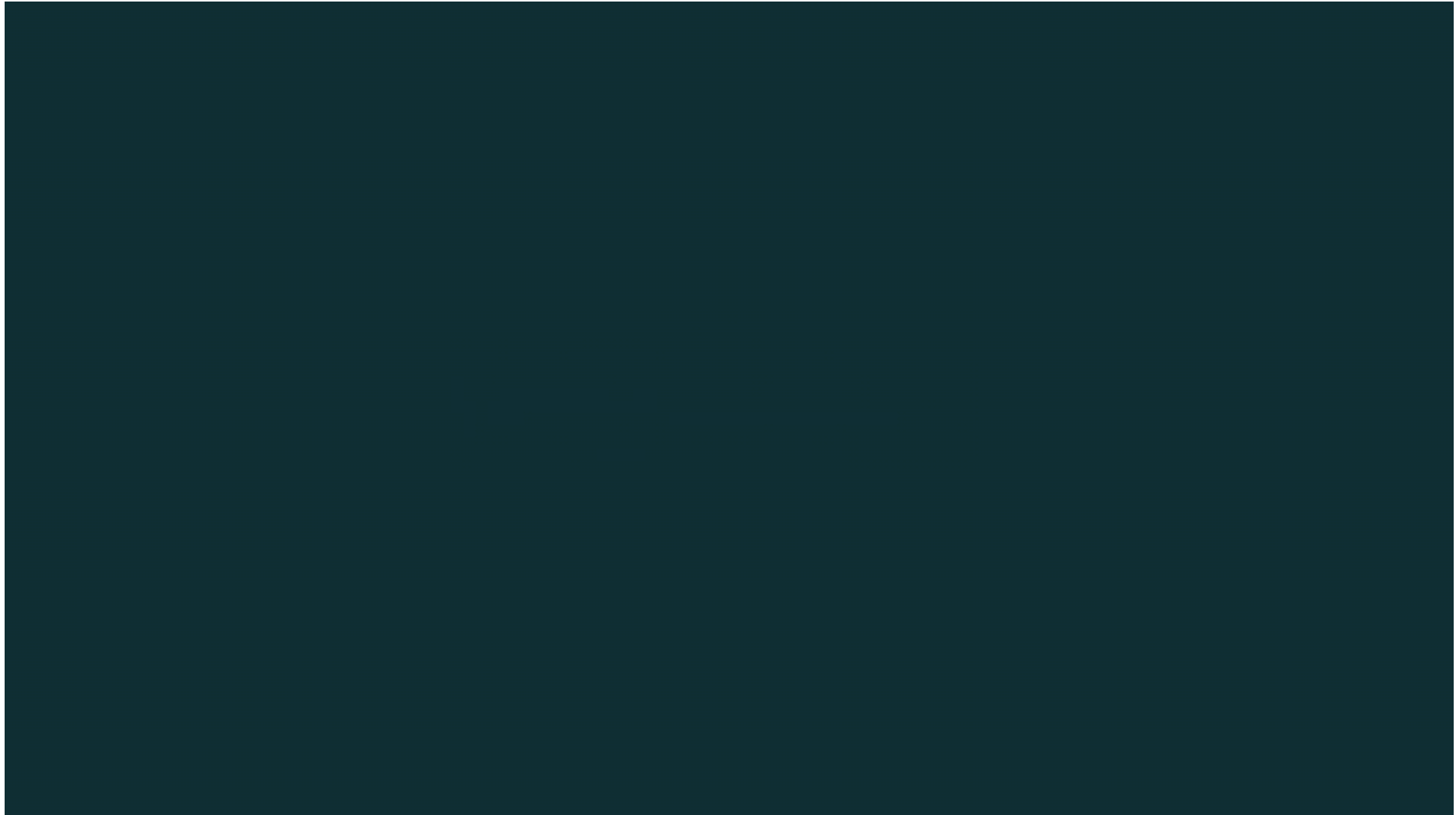
AATP...

The specification is the heart of AATP. It defines the detailed specifications for interoperable implementations
https://aatp.foodagility.com/docs/specification

Credentials and credentials
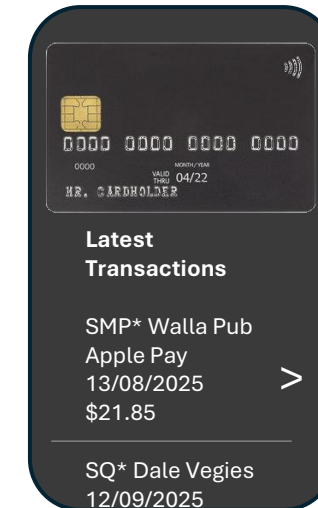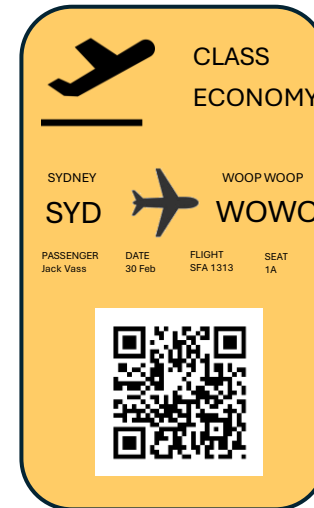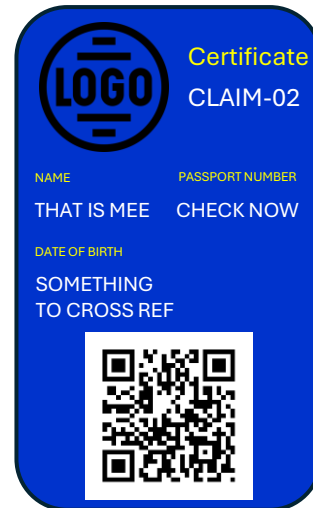
Light → Heavier

| Access to a minted credential | Access to internal validation | Access to external validation |

eg Domestic Covid Cert

eg International Covid Cert
Conforming to ICAO/WHO
Linked to myGov
Visible Digital Seal (VDS)-
access granted to pre-defined
entities

eg Boarding Pass

eg Credit card
-Near field comms
- ISO200222*

(*interoperability between financial institutions,
market infrastructures, and the banks'
customers through a common language).
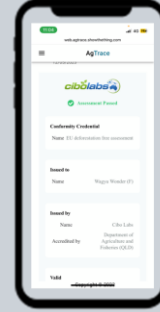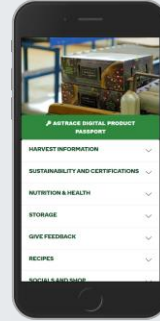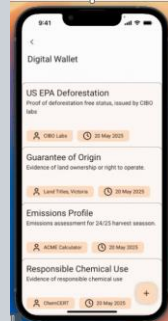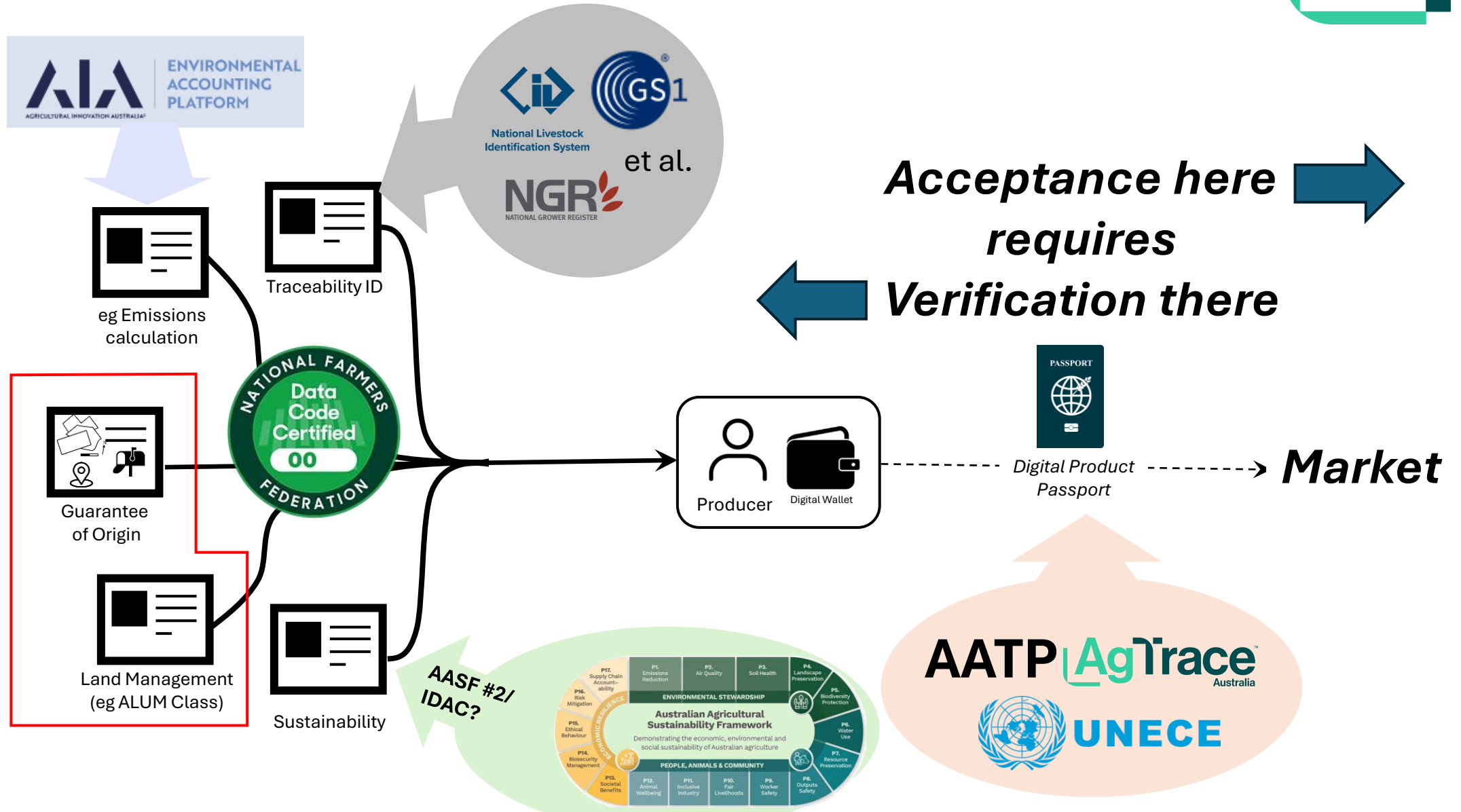
Trust versus privacy

The generator/receiver risk conundrum
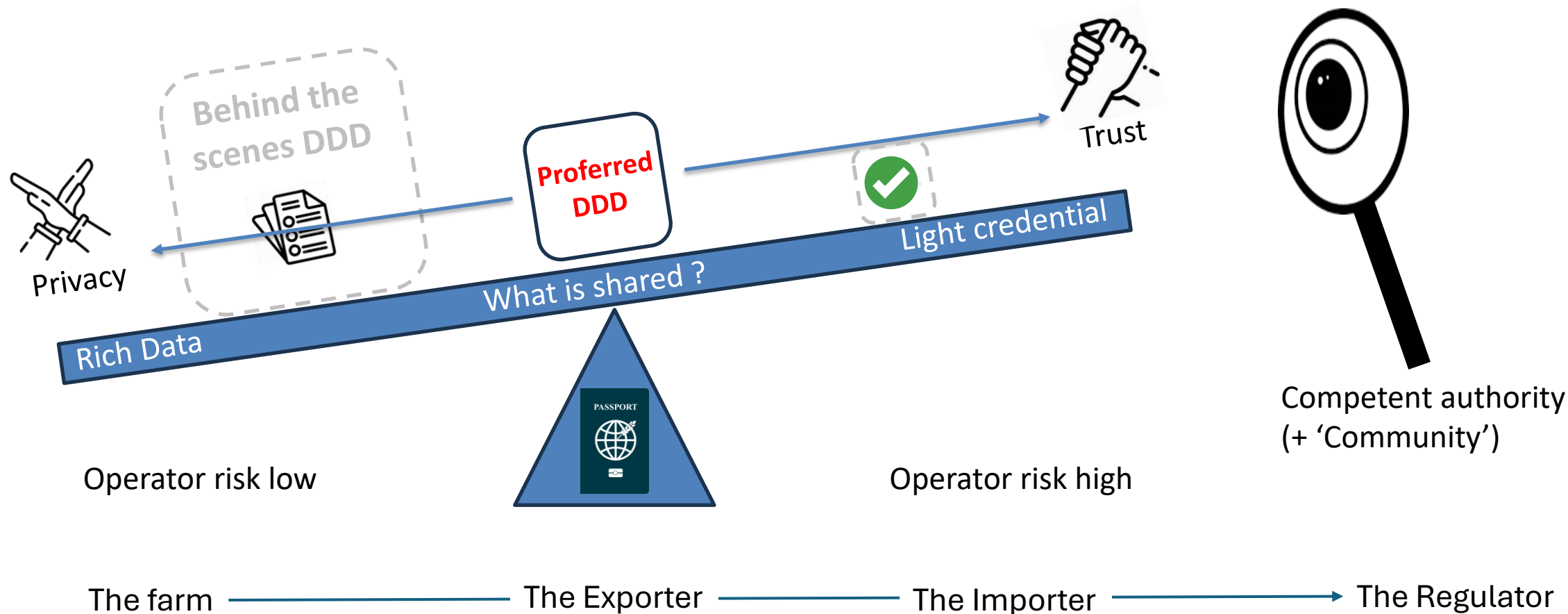
The easy bit: DPP - Compliance credentials

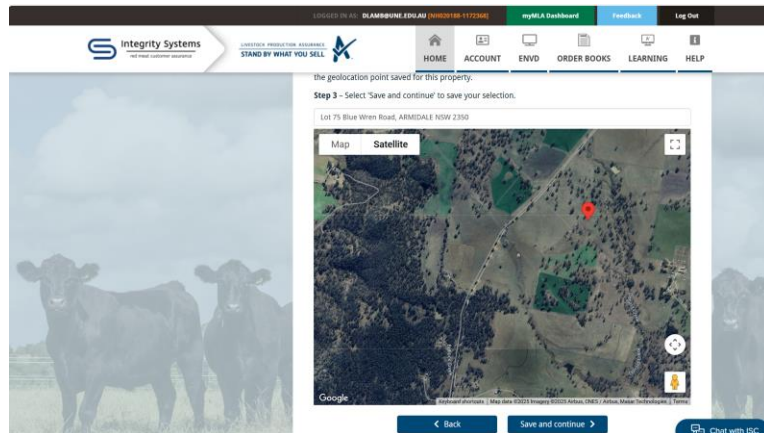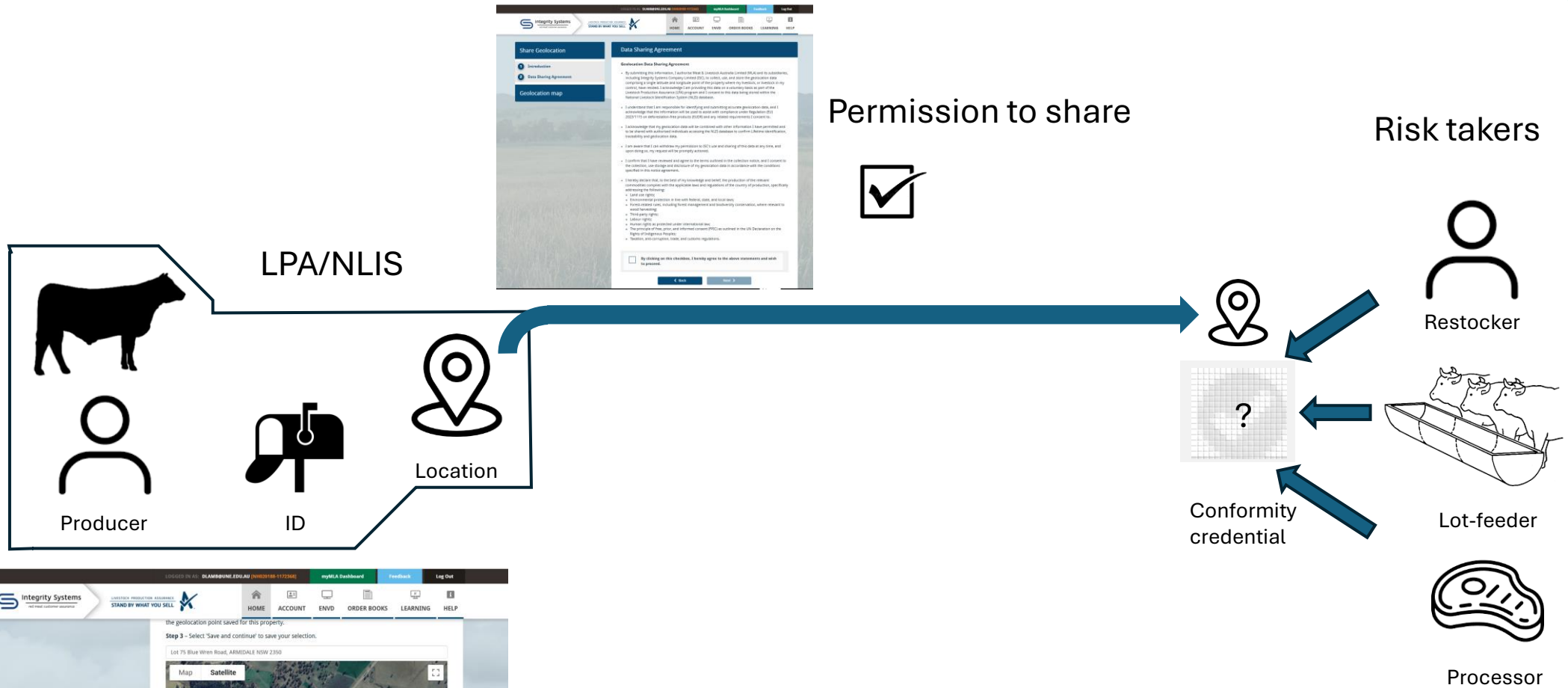| Product/Pilot	Requirement	Credential(s)
Red meat	Export to EU	-D-free (lifetime) Ref date: 31 Dec 2020
Cherries	Export to China	-Harvest -Sustainability
Canola	Export to U.S. (RFS2.0)	-ID (NGR) -Location -Harvest -Land use -Emissions

The hard bit: Trust anchors/Governance

What we have:

Permission to share ☑

Risk takers

LPA/NLIS

Location

Producer

ID

Restocker

Conformity credential

Lot-feeder

Processor

Self-identify location ☑

Self–assessment tools

Self-identify location ☑

What is emerging:

Risk takers

Product

Producer   ID   Location

Location**

SSI?

Establish rules
(AASF-Phase #2
Peak bodies?)

Rules based
assessment

Certified
assessors

Conformity
credential

In-chain purchasers

Aggregators

Processor
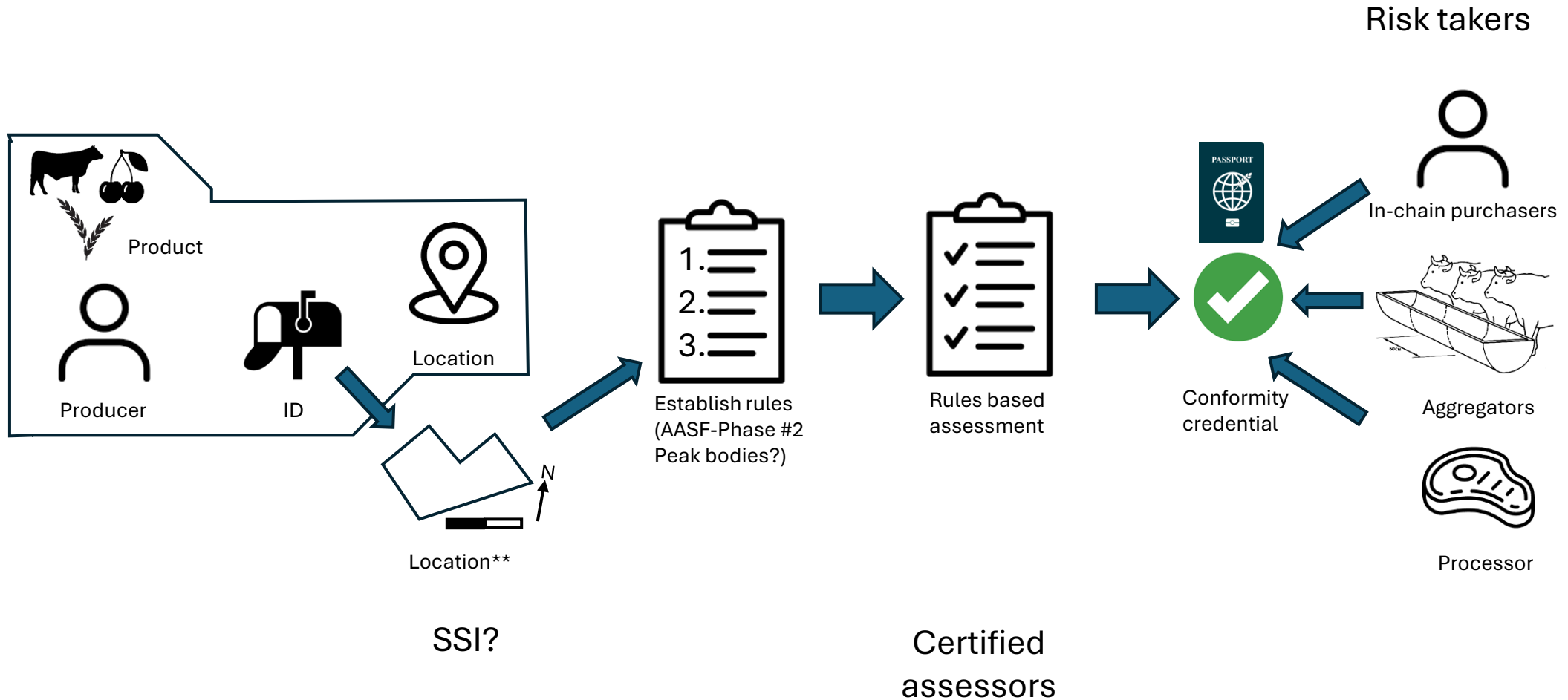
Take home messages

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    - AASF **but** it requires consensus-based and /coordinated approach to implement

        - IDAC or equivalent 'entity'?

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  - AASF **but** it requires consensus-based and /coordinated approach to implement
    - IDAC or equivalent 'entity'?
  - AATP **but** it needs an enduring host
    - Standards Australia, DAFF?

Take home messages

- We have the critical technical ingredients:
  - AASF **but** it requires consensus-based and /coordinated approach to implement
    - IDAC or equivalent 'entity'?
  - AATP **but** it needs an enduring host
    - Standards Australia, DAFF?
- National/Public traceability and data assets **but** they need freedom/imprimatur to operate in B-B transactions

Contact:
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AATP GitHub

DPP - Try me...