Trusted Product Conformity –

Towards Digitally Traceable Quality, Safety, Social, Environmental Data for Products Cross-Border Sustainable Trade

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Workshop Session

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UN / CEFACT

Foundations for future digital product conformity systems

UN/CEFACT Project Lead
Brett HYLAND

Digital Product Conformity Certificate Exchange

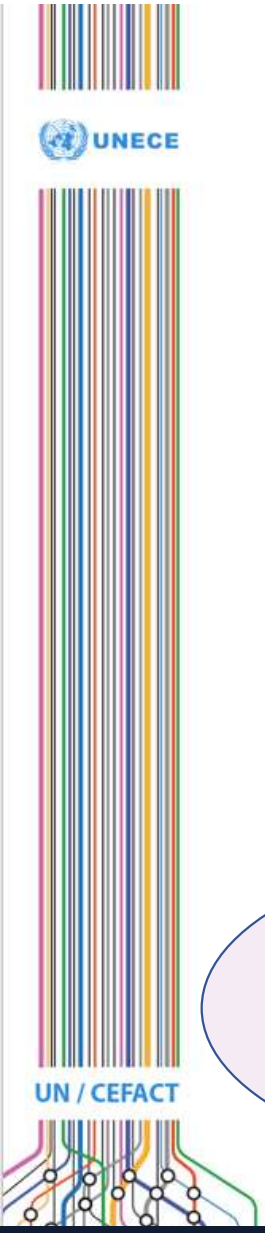
Testing Inspection Certification (TIC)

For many products that we consume and interact with, TIC provides the basis for assuring:

- ✓ Safety
- ✓ Quality
- ✓ Environmental impact
- ✓ Social impact

The sector is fundamental to global trade:

- Global accreditation arrangements ensure cross-border recognition
- Operating under a well-established framework of ISO standards



International Laboratory Accreditation Cooperation

International Cooperations

Peer evaluations of Accreditation Bodies against ISO/IEC 17011 facilitating global *Mutual Recognition Arrangements*

International Accreditation Forum

National (or regional) Accreditation Bodies

Accreditation

Competency Assessment of Conformity Assessment Bodies (CABs)

National (or regional) Accreditation Bodies

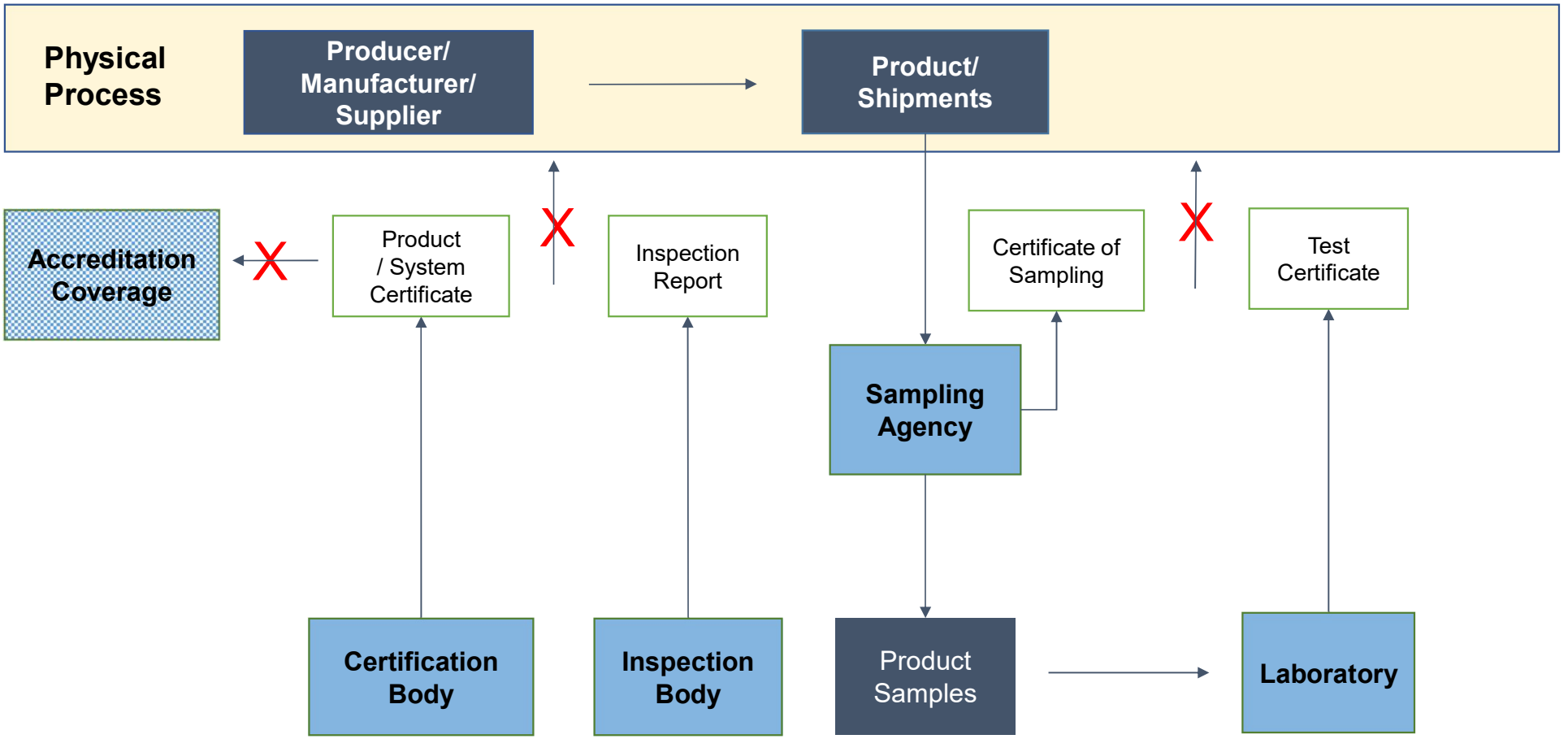
Laboratories
Inspection bodies
Reference Materials
PT Scheme providers

Accredited CABs

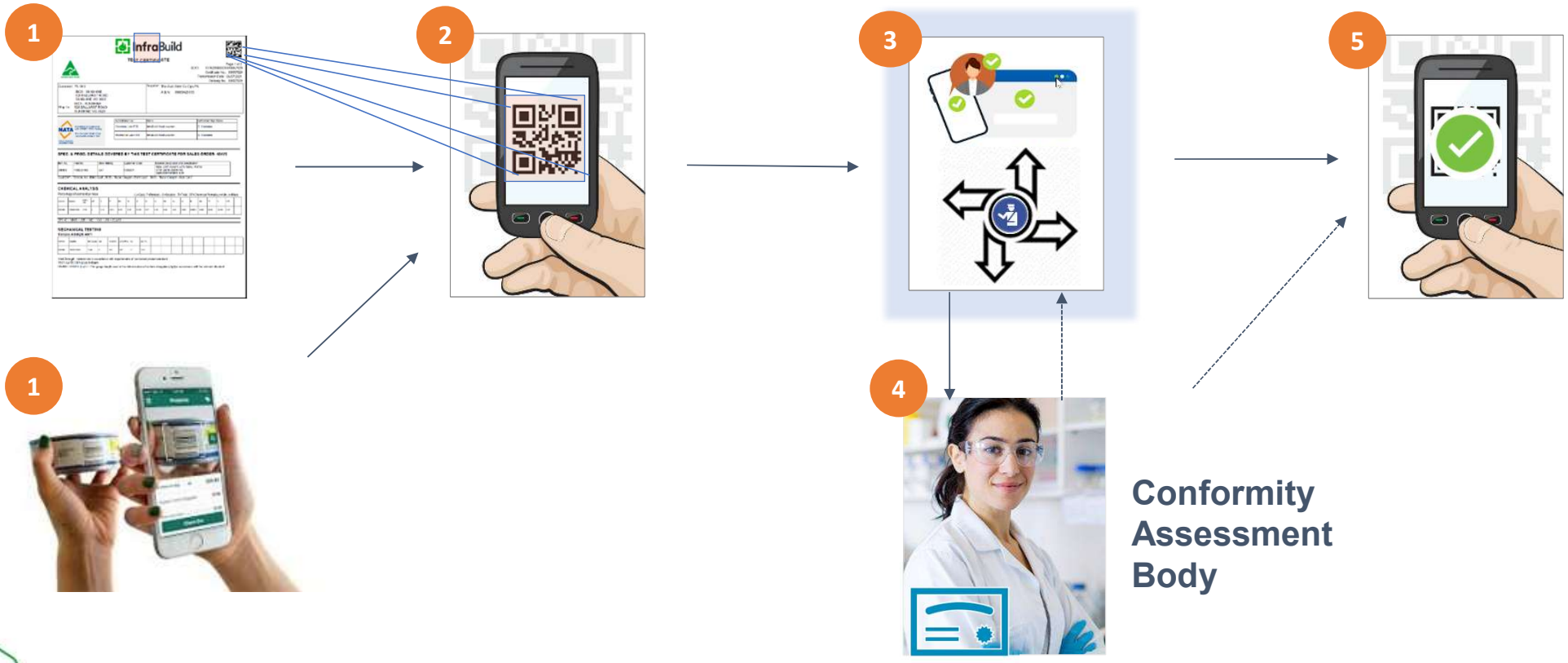
Conformity assessment activities

Management system certifiers
Product certification bodies
Personnel certification bodies
Verification bodies

Lack of digital connectivity in existing systems



Can this concept be realised?



Our approach

1. Access to data from an original source is preferable to second-hand information.
2. Connections made between data points should be made by trusted authorities with direct knowledge.
3. Suitable technologies and standards exist and do not need to be reinvented.

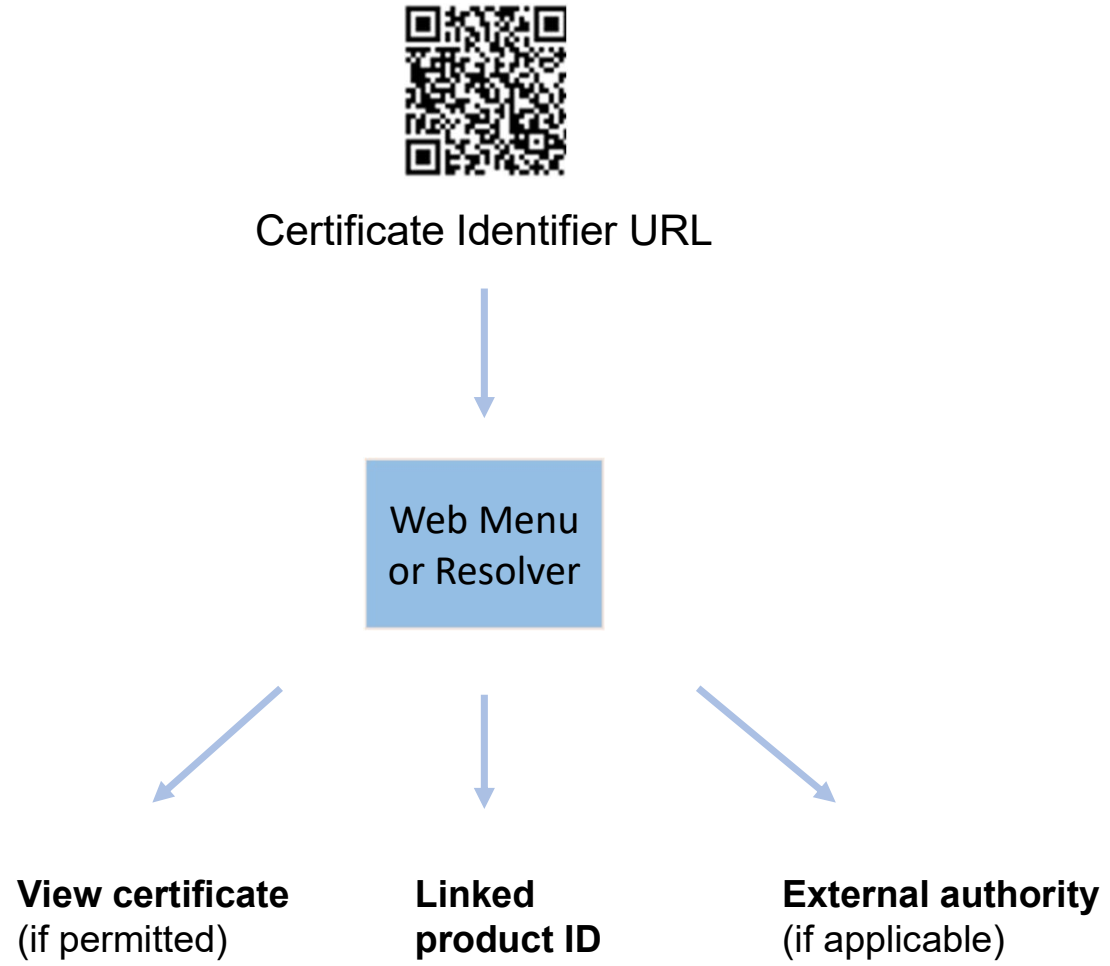
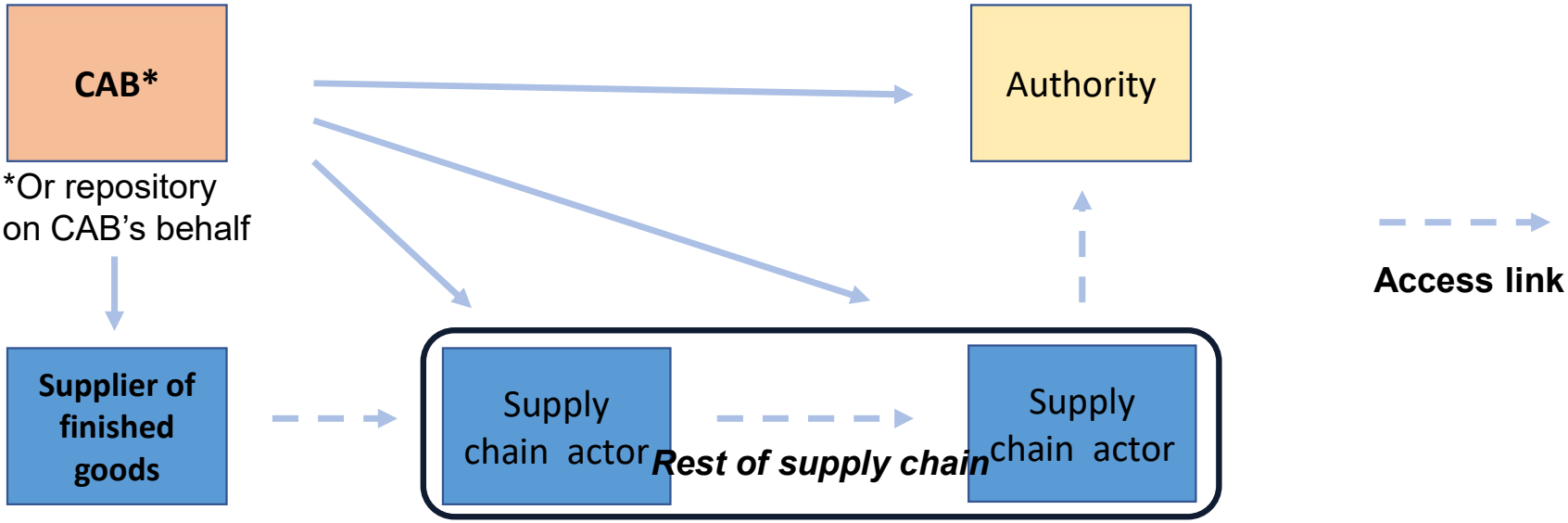
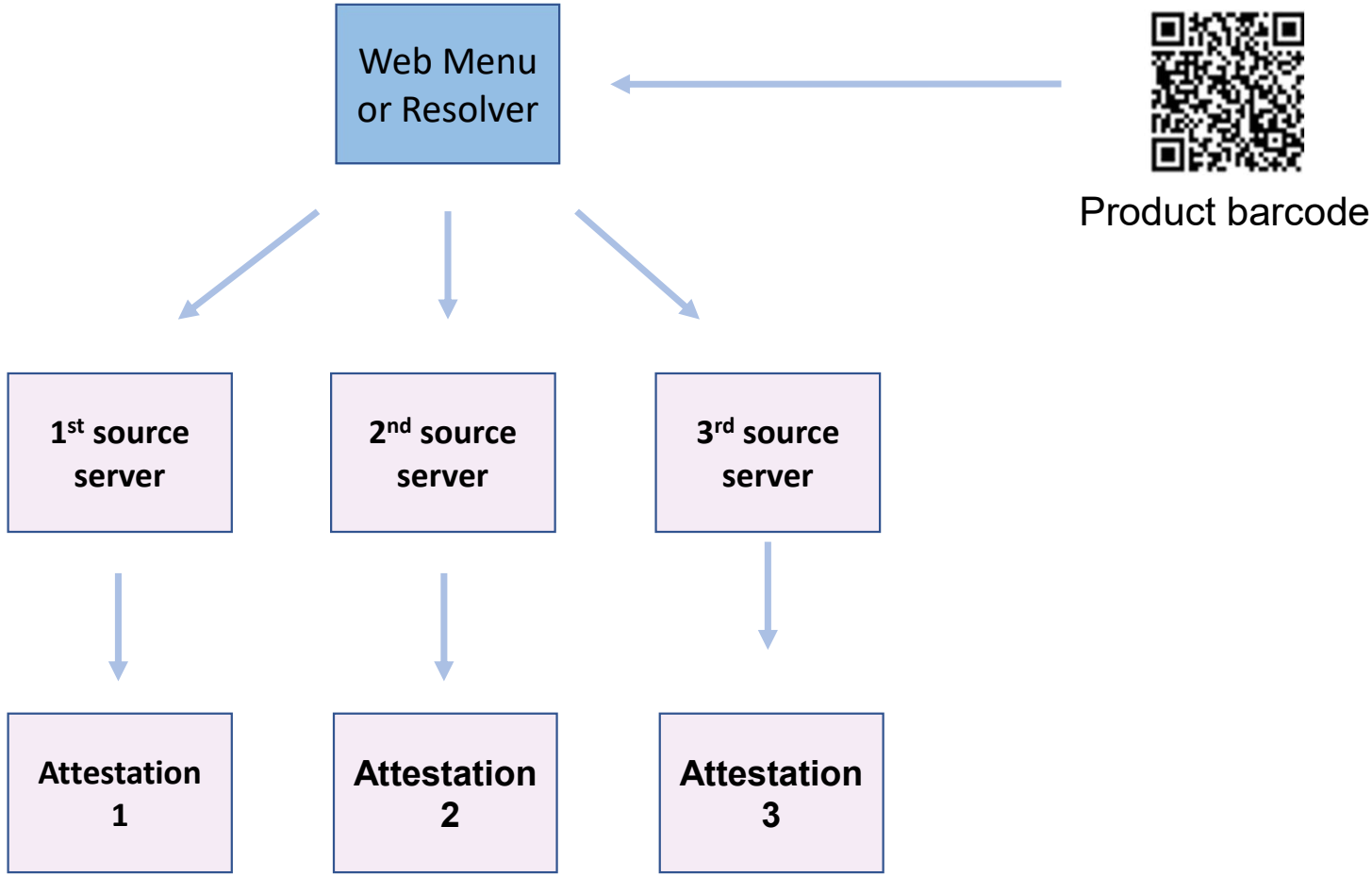
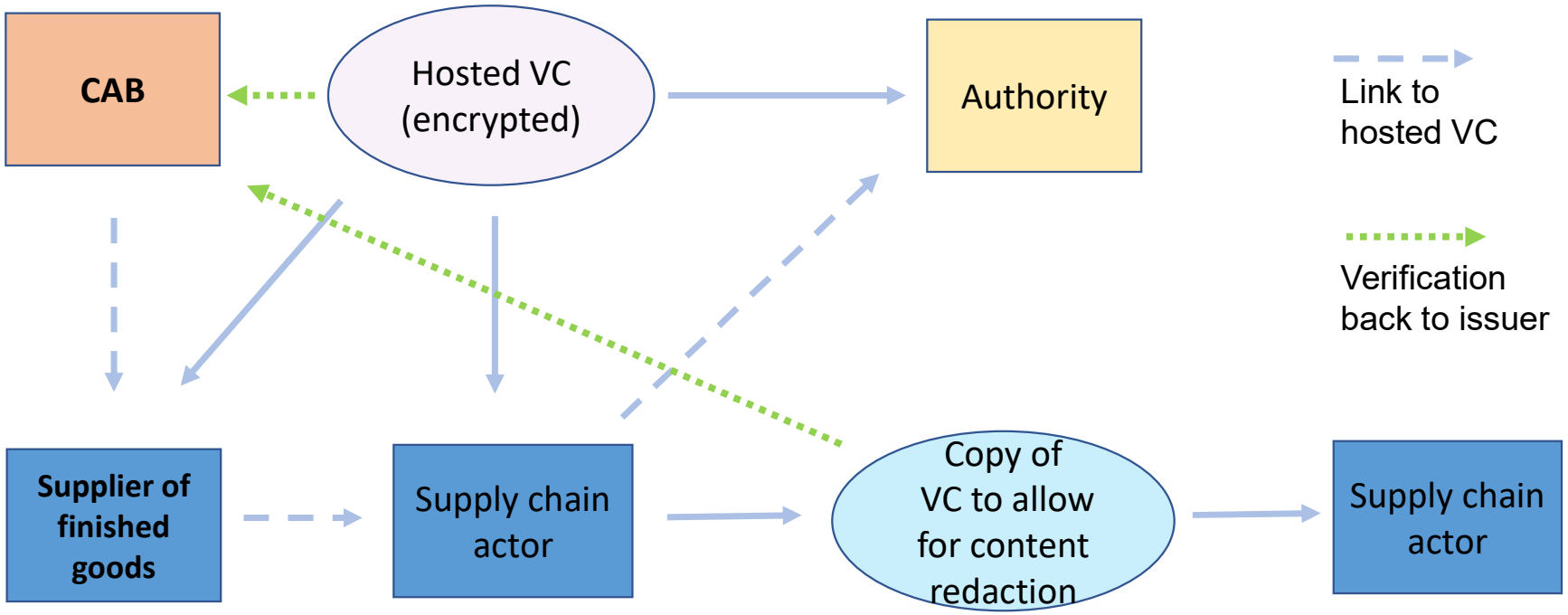


Image adapted from diagram from UN/CEFACT Digital Product Conformity Certificate Exchange White Paper Public Review version


CAB*
*Or repository on CAB's behalf
Authority
Access link
Supplier of finished goods
Supply chain actor
Rest of supply chain
Supply chain actor


Web Menu or Resolver
Product barcode
1st source server
2nd source server
3rd source server
Attestation 1
Attestation 2
Attestation 3

Selective redaction of data



Conformity assessment
- a digital building block for future supply chains

Direct electronic access to authoritative original sources could provide:

- ✓**Trust anchors** for conformity data, to which manufacturers can point when substantiating specific product claims
- ✓Reliably linking conformity data to **physical supply** by leveraging global data standards
- ✓An **enabling mechanism for traceability**
- ✓Support for **data aggregation,** via feasible models, across different economies/supply networks

Thank you

Brett Hyland
UN/CEFACT Project Lead

Legal considerations applicable to cross-border digital product conformity systems

Associate Professor University of Sydney Law School
Jie (Jeanne) HUANG

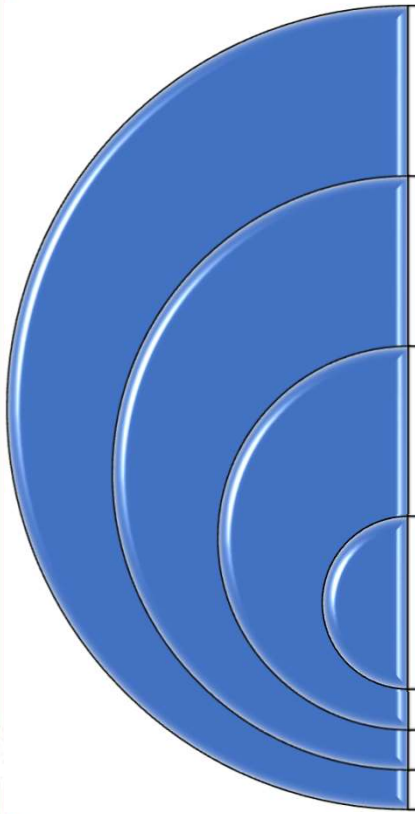
- **Ensure outcomes:**

1. establishing a match between conformity attestations and the physical product
2. verifying the authority and status of the certificate issuers
3. constant provision for verifying along the whole supply chain that an attestation is both genuine and reflective of the current issue status.

- **Legislative challenges in at least four areas:**

1. Cooperation on conformity assessment procedures in digital trade
2. Digital legal identifiers
3. Data security and integrity
4. Balancing transparency and privacy protection

Existing legal infrastructure already at the disposal of industry and governments



Conventions	• WTO • FTA • Others, e.g. the 1961 Apostille Convention: a jewel in the HCCH Crown
International model laws	• UNCITRAL Model Law on Electronic Transferable Records (MLETR), etc.
International standards	• UN/CEFACT • GS1 global data model • ISO, etc.
National/Regional Laws	• Data protection law • Consumer protection law • Trade law • Dispute resolution, etc.

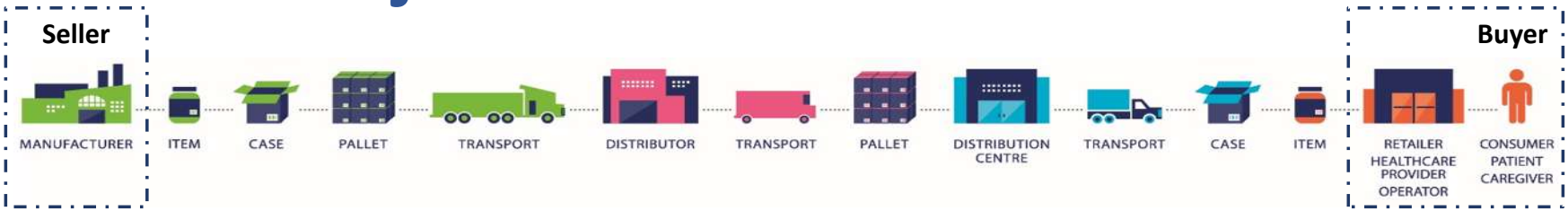
Thank you

Associate Professor University of Sydney Law School
Jie (Jeanne) HUANG

Compatibility with CEFACT Multi-modal Transport Track and Trace Model

Vice-Chair International Taskforce Port Call Optimization
UNCEFACT Expert
Jaco VOORSPUIJ

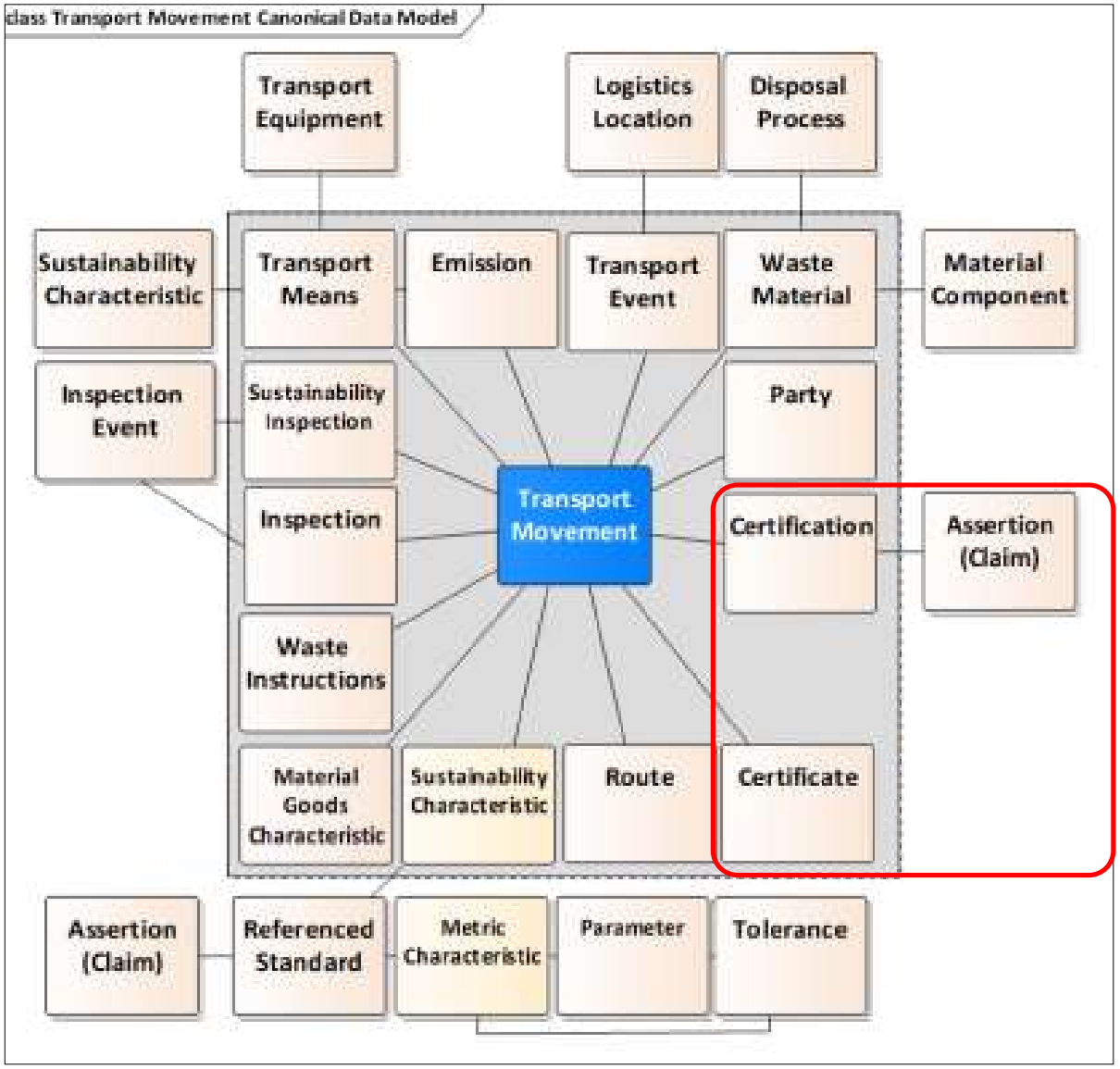
UN/CEFACT Cross Industry Supply Chain Track & Trace Project



The mission of this project: Where is the product at any time?

- Enable tracking and tracing of products (or assets) and information sharing in ***standard*** electronic format.
- Track and trace any ***traded and identified items*** including transport equipment or assets (e.g., box, pallet, container, etc. … Even empty!).
- Logistic services: transport the traded goods between the ***seller*** and the ***buyer***.

Transport & Logistics link to Certification



How do we ensure stakeholders know and trust the information about exactly WHERE Events have occured ?

The approach basically consists of two stages :

1) Connect the Physical Object to the Digital World.

2) Find the required additional information through Linked Data.

Linked Data example Transport and Logistics – Step 1

Starting from an identifier, we connect to a (series of) system/s to increase our trust in the information first presented to us.

In T&L we do something similar.

The barcode below points to a Menu of Web Source of Data for the identifier (in this a GS1 GLN) where more information regarding the identifier may be found

Linked Data example Transport and Logistics – Step 2

Here is the simplified version of that menu

GS1 keys - LOC No: 9429300016329

Link-Type: MasterData.

Target URL: https://portmasterdata.com/id/9429300016329

Title: Global Location Data Platform (GLDP)

Target URL: https://www.nzbn.govt.nz/mynzbn/opndetails/9429000000000/9429300016329/

Title: NZ Location Registry

In this Menu you can choose the Linked Source of Data via the hyperlink.
You may also scan the applicable barcode on this slide

Let’s go to the GLDP first.

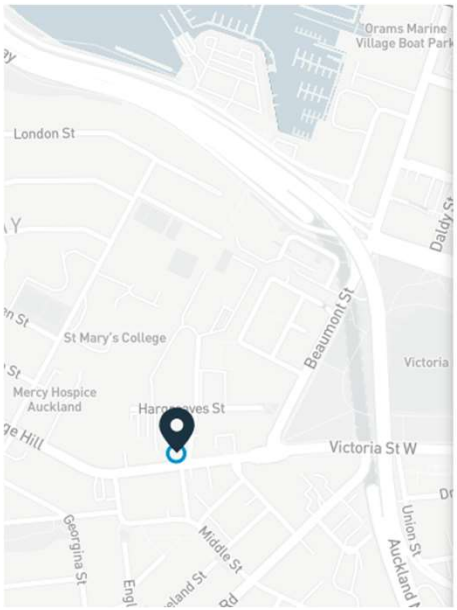
Linked Data example Transport and Logistics – Step 3

Following the link for GLDP,
it will display something like the screenshot to the right

The Link took us straight to the information associated with the Location Identifier

Bottom right you see the same links we saw on the Web-menu before
in a nicer presentation.
GLDP retrieved those from the Web-menu service.

Clicking on <NZ Location Registry> in this GLDP screen will take you to that service operated by the NZ Government.



GS1 New Zealand (Auckland Office)

Verified & Audited

Global reference

Assigned id: 9429300016329
GCP 942930

Position

Latitude: -36.8481797
Longitude: 174.749466

Attributes

Name: GS1 New Zealand (Auckland Office)

GS1 linked data

Title	Link relationship type	Media type	Language
Global Location Data Platform	https://gs1.org/voc/masterData	text/html	en
NZ Locatrion Registry	https://gs1.org/voc/masterData	text/html	

Linked Data example Transport and Logistics – Step 1

Starting from an identifier, we connect to a (series of) system/s to increase our trust in the information first presented to us.

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Linked Data example Transport and Logistics – Step 2

Here is the simplified version of that menu

GS1 keys - LOC No: 9429300016183

Link-Type: MasterData.

Target URL: https://portmasterdata.com/id/9429300016183

Title: Global Location Data Platform (GLDP)

Target URL: https://www.nzbn.govt.nz/mynzbn/opndetails/9429000000000/9429300016183

Title: NZ Location Registry

In this Menu you can choose the Linked Source of Data via the hyperlink.
You may also scan the applicable barcode on this slide

Let’s go to the GLDP first.

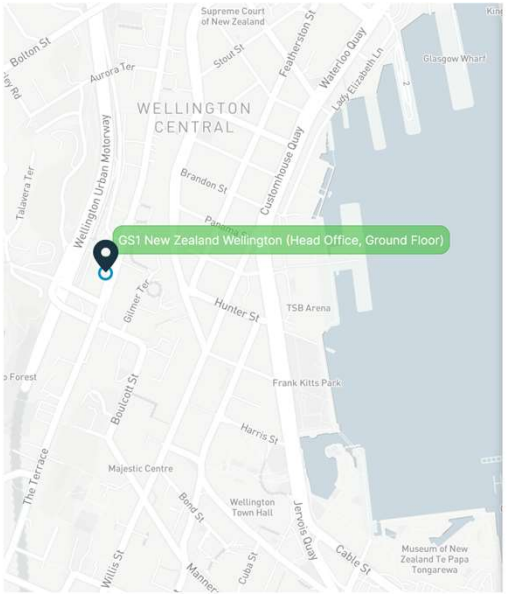
Linked Data example Transport and Logistics – Step 3

Following the link for GLDP,
it will display something like the screenshot to the right

The Link took us straight to the information associated with the Location Identifier

Bottom right you see the same links we saw on the Web-menu before
in a more detailed presentation.
GLDP retrieved those from the Web-menu service.

Clicking on <NZ Location Registry> in this GLDP screen will take you to that service operated by the NZ Government.



GS1 New Zealand Wellington (Head Office, 2nd floor)

Verified & Audited

Global reference

Assigned id: 9429300016183
GCP 942930

Position

Latitude: -41.284992
Longitude: 174.773758

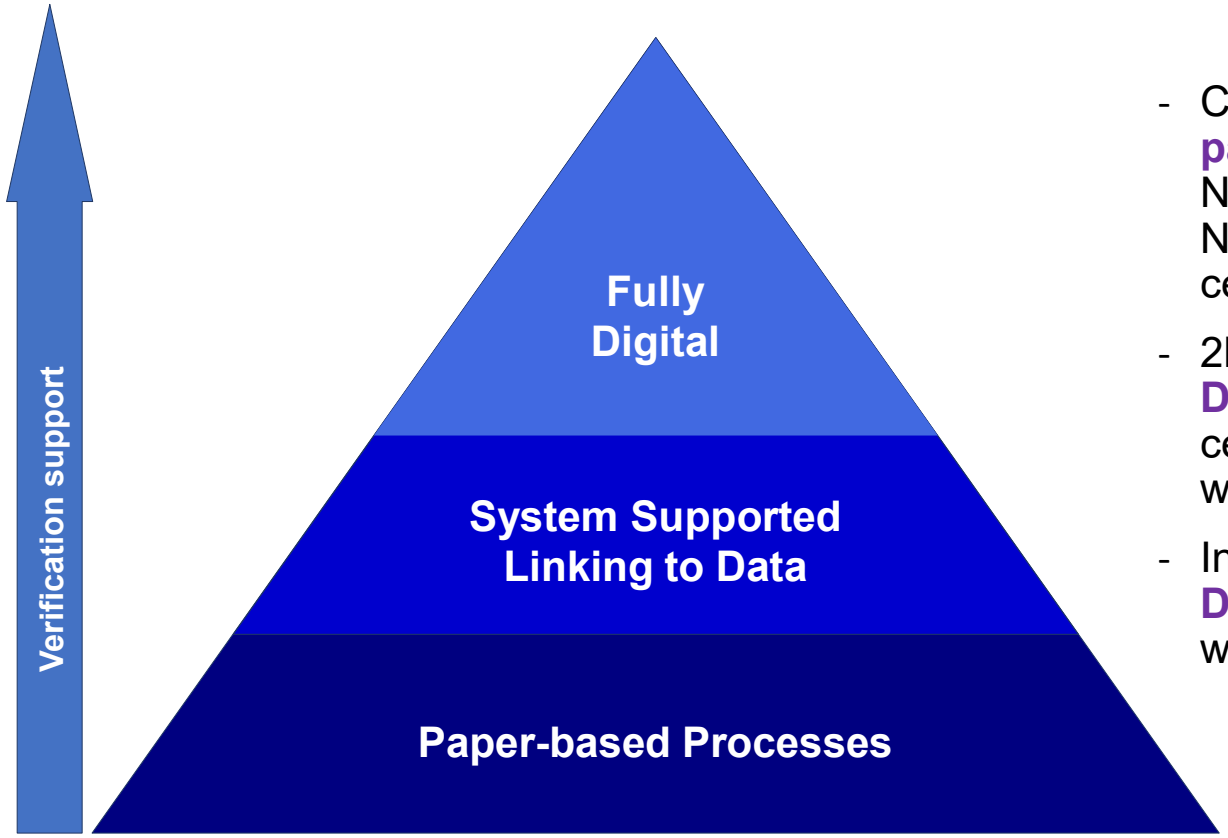
Attributes

Name: GS1 New Zealand Wellington (Head Office, 2nd floor)

GS1 linked data

Title	Link relationship type	Media type	Language
Global Location Data Platform	https://gs1.org/voc/logisticsInfo	text/html	en
NZ Location Registry	https://gs1.org/voc/masterData	text/html	en
NZ Location Registry	https://gs1.org/voc/masterData	text/html	
Cartes Google	https://gs1.org/voc/serviceInfo	text/html	en fr
Global Location Data Platform	https://gs1.org/voc/serviceInfo	text/html	
Google Maps	https://gs1.org/voc/locationInfo	text/html	en
NZ Location Registry	https://gs1.org/voc/certificationInfo	text/html	en

Putting this into perspective



- Current processes are almost entirely **paper-based** and nearly always
  No access to systems.
  No clear link between object and certificate
- 2D barcodes **Linking** certificates to **Data** enabling (some) verification of certificate and whether it is associated with the physical object at hand
- Information is exchanged in **Digital Format Only** with strong verification support

All levels will co-exist for the foreseeable future

Thank you

Vice-Chair International Taskforce Port Call Optimization
UN/CEFACT Expert and
Jaco VOORSPUIJ

Framing a Compelling Vision of the Future

UN/CEFACT Project Lead and Managing Director GoSource Pty Ltd
Steve CAPELL

The Sustainability Challenge - Greenwashing

As regulatory and consumer pressures drive up demand (and justify premium prices) for sustainable goods, so the commercial incentive to make fake sustainability claims will increase.

EC investigation : 59% of environmental claims had no evidence and 42% were deemed false or deceptive.

Fast Company: 68% of executives admit their company is guilty of greenwashing.

Survey: 78% of consumers believe that companies should be environmentally responsible and are willing to pay premiums for confidence in those claims.

Secretary General Guterres at COP27 2022 : **“Zero Tolerance for Greenwashing”**

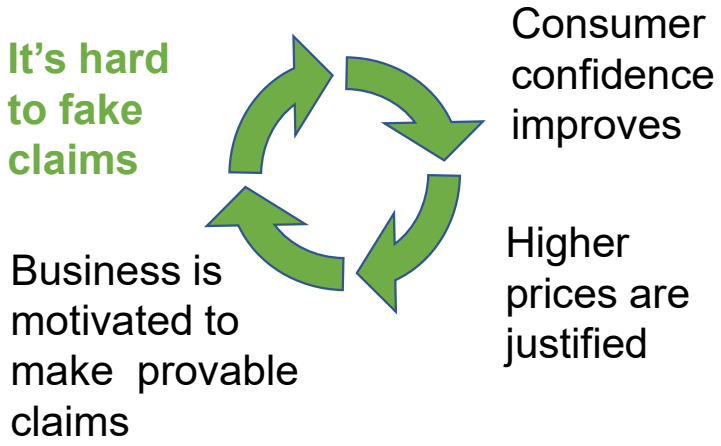
https://www.un.org/sites/un2.un.org/files/high-level_expert_group_n7b.pdf
https://ec.europa.eu/commission/presscorner/detail/en/ip_21_269
https://www.fastcompany.com/90740501/68-of-u-s-execs-admit-their-companies-are-guilty-of-greenwashing
https://blog.gitnux.com/greenwashing-statistics/
https://www.un.org/en/delegate/%E2%80%98zero-tolerance-greenwashing%E2%80%99-guterres-says-report-launch

Are we in a race to the top or to the bottom?

There is already a significant difference between consumer expectation and market behaviour. There are two plausible pathways out of this:

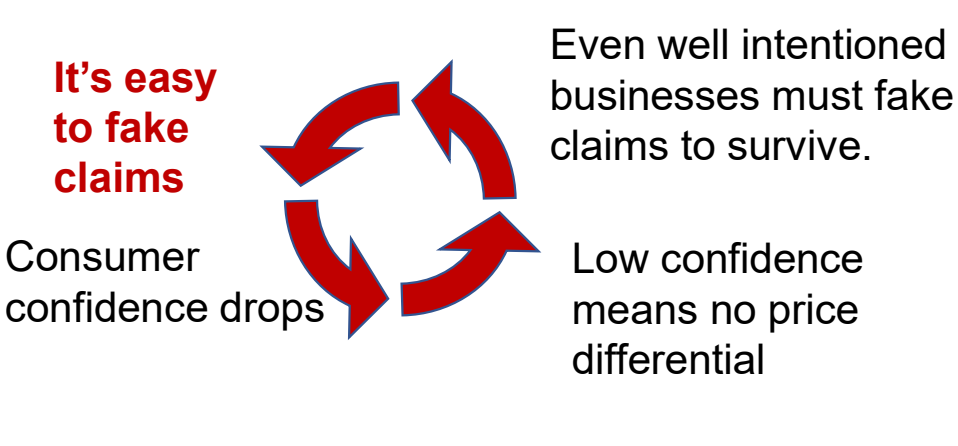
Either : A race to the top

Greenwashing is rare and has nowhere to hide



Or : A race to the bottom

Greenwashing is ubiquitous and undetectable



So we should be motivated to make it hard to fake claims! Product conformity matters

How are sustainability claims verified?

There are three ways that sustainability claims might be verified. They can work together

I say it's true :
prove me wrong!

Make claims public and rely on activism to call out fakes.

Important starting point but easiest to fake.

They say it's true :
do you trust them?

Trusted authorities accredit certifiers who audit the claims.

Conformity certification makes fakes harder

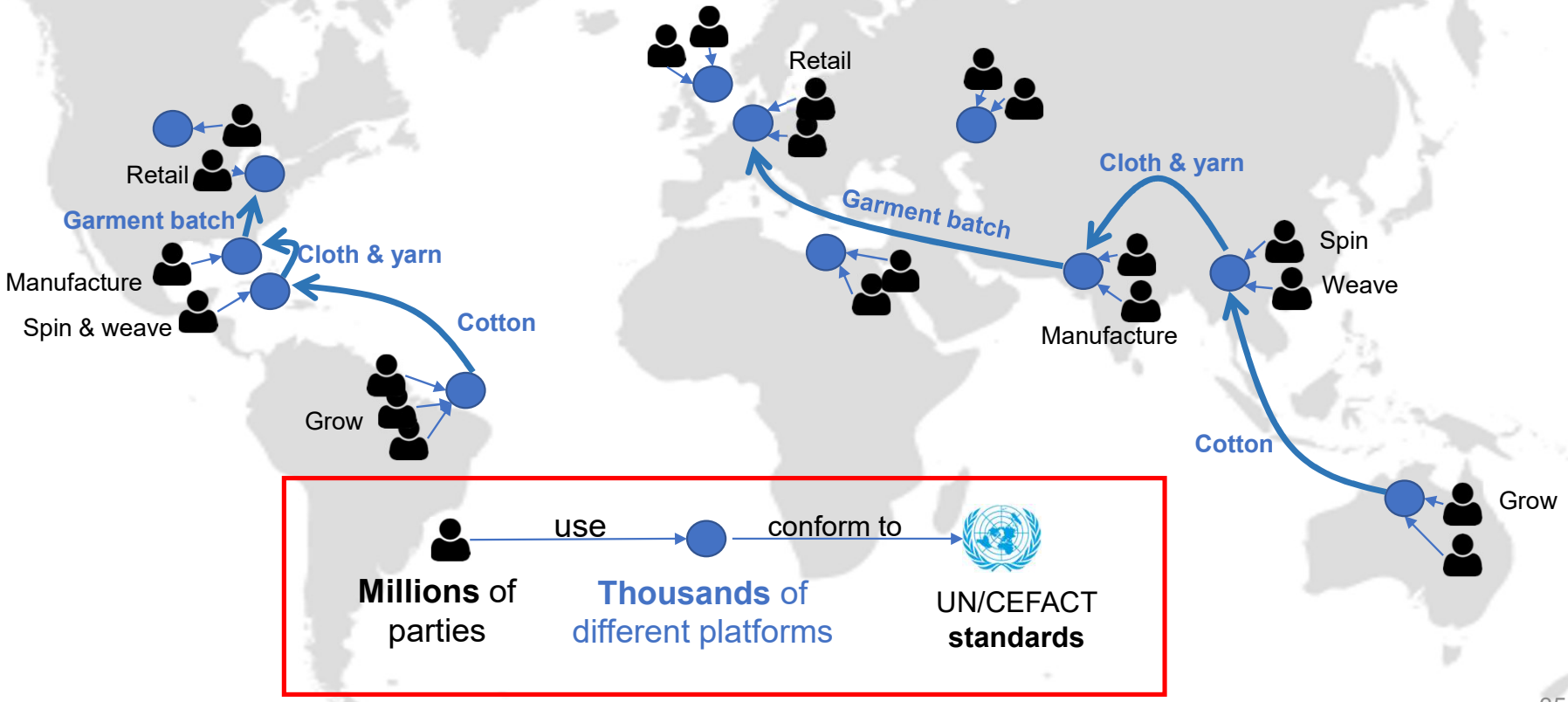
It's self-evidently true:
I can see the proof myself.

Digitally verifiable traceability & transparency supports the claims

Full transparency is the hardest to fake

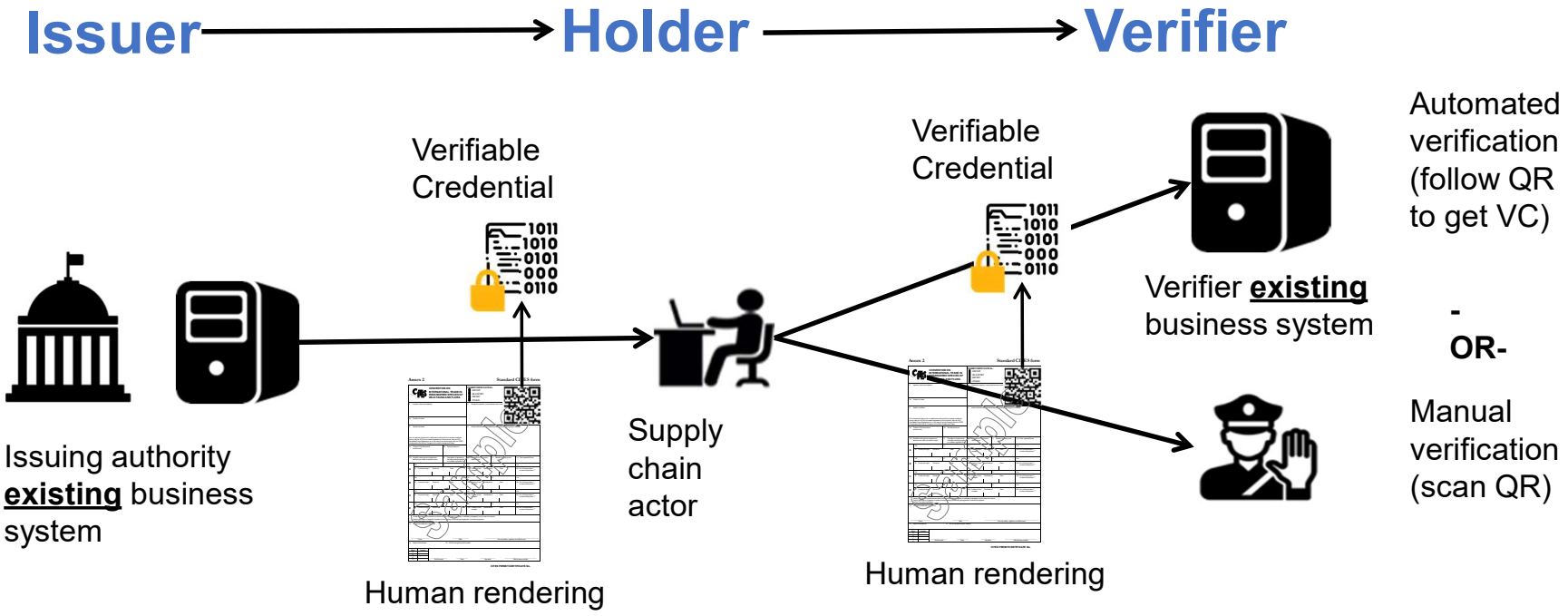
The challenge is to join islands of data

There is no single global platform for traceability / sustainability data so we need standards to help join up the dots in a scalable way. CEFACT mission is to facilitate development of those standards.



Verifiable Credentials provide the glue

A VC is a self-contained and portable packet of verifiable data that includes a human rendering.



VCs help overcome many barriers to scalability of traceability & transparency solutions.

Thank you

UN/CEFACT Project Lead and Managing Director GoSource Pty Ltd
Steve CAPELL

Discussion:
‘the art of the possible’

Gauging the level of interest in the ideas from today’s audience.

Is this concept a worthy vehicle for ensuring that unscrupulous or unsustainable behaviour has nowhere left to hide?

Identifying possible pain points.

In moving from theory to practice, do we:

- Focus on applications, e.g., Digital product passports
- Focus on industries, e.g., Apparel, Food, Construction