



UN/CEFACT Critical Raw Materials Sustainability and Traceability Project

Year-End Webinar

December 12th, 2023

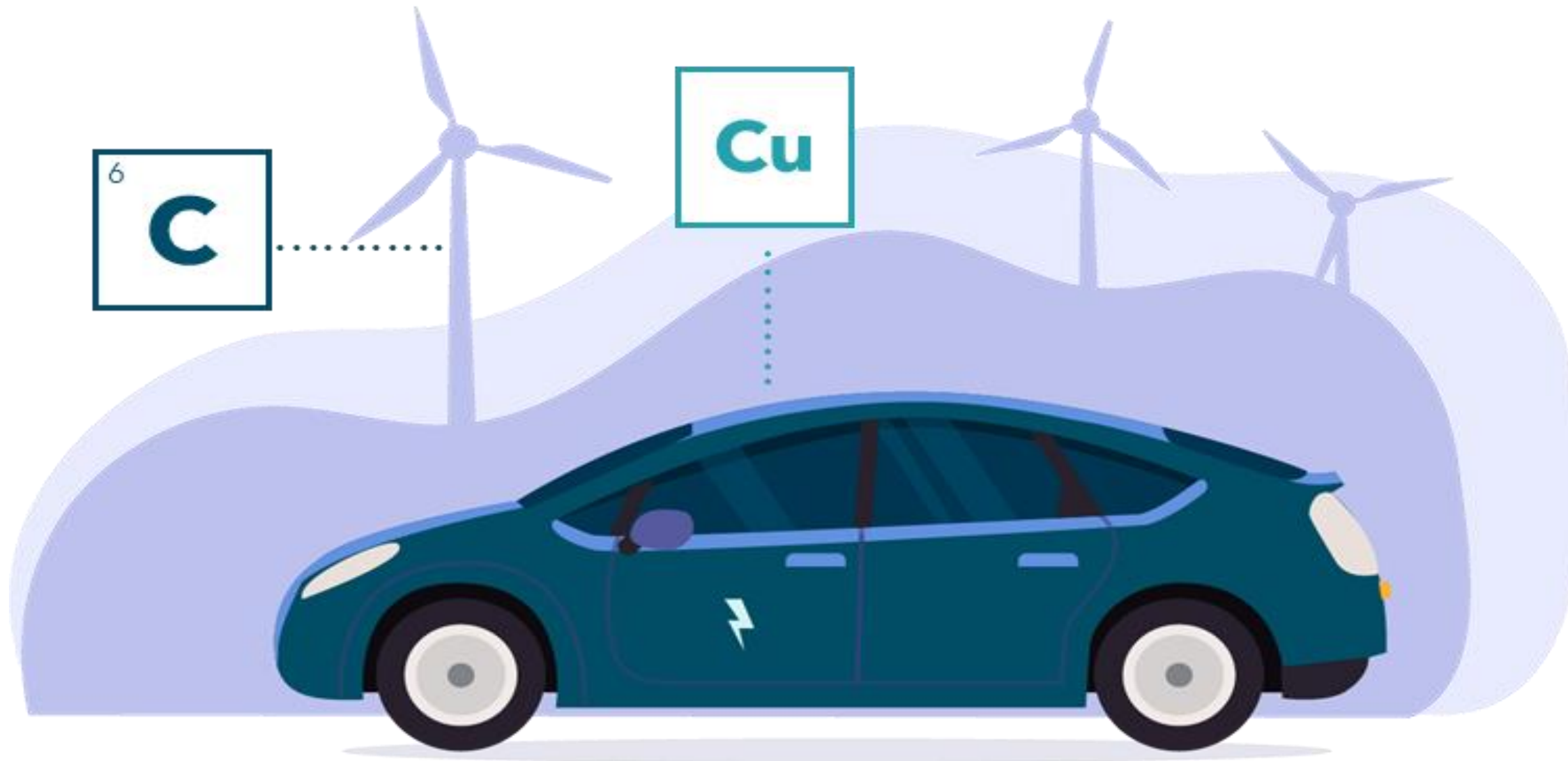
Territorial Acknowledgement

We acknowledge with gratitude the traditional territories on which we live and work and we give thanks to the traditional keepers of these lands.



Native-Land.ca | Our home on native land

CRM Project Goals



**Uplift critical raw material supply chain resilience
and sustainability**

Principles



Consensus Driven & Collaborative

The UN/CEFACT Open Development Process is consensus driven, collaborative, open and transparent.



Strategically Aligned

This project is aligned with the UN Sustainable Development Goals.



Practical

The project will define and deliver practical ways to add value. We will build useable tools that facilitate global implementations.



Informed

We will build upon work already completed and underway by UN/CEFACT and other organizations and initiatives.

Resilient & Sustainable CRM Supply Chain Drivers



**Growing Demand
and
underinvestment in
CRMs**



**Growing Demand
for Trusted ESG
Disclosure**



**Lack of ESG
Harmonization**

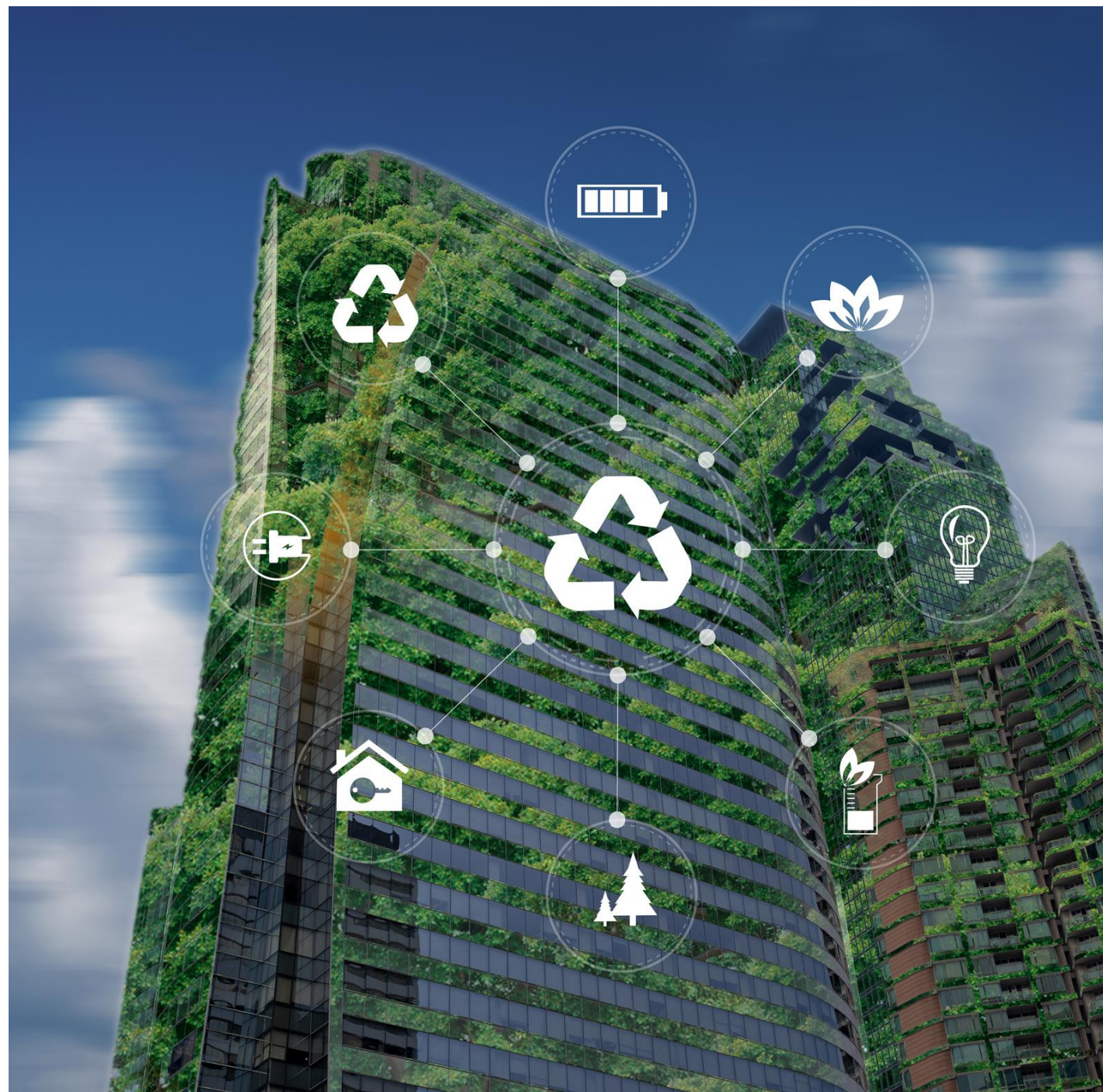


**Lack of Technical
Interoperability**



**Tackling
Greenwashing**

Tackling Greenwashing



As regulatory and consumer pressures drive demand for sustainable goods, the commercial incentive to make fake sustainability claims will increase.

59%

of environmental claims are not backed by evidence. 42% were deemed deceptive.

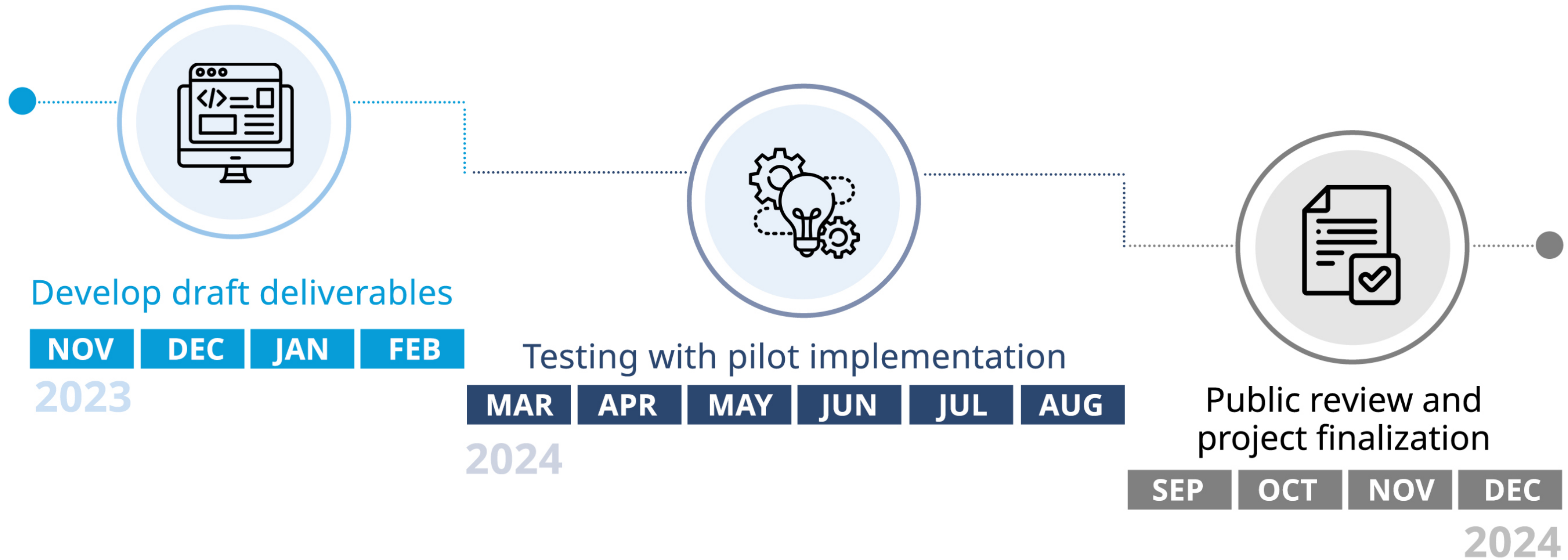
68%

of executives admit their company is guilty of greenwashing.

78%

of consumers believe that companies should be environmentally responsible.

Project Timeline



CRM Project Workstreams



Traceability Interoperability



Core Sustainability Vocabulary



Legal/Ethical



DRC Cobalt Implementation



Copper Implementation



Lithium Implementation

Progress to Date



Refined Problem Definition



Sub-Project Leads In Place



Business Requirements



CRM Supply Chains

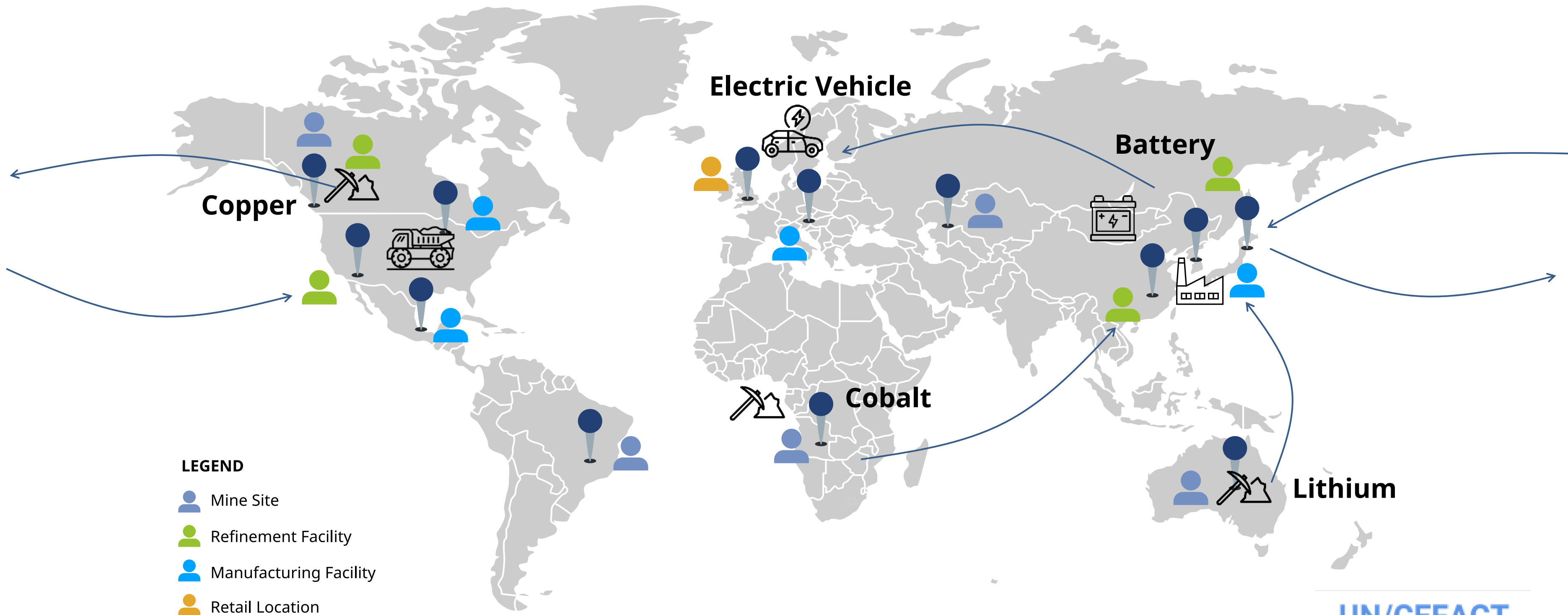


Alignment to Related Initiatives

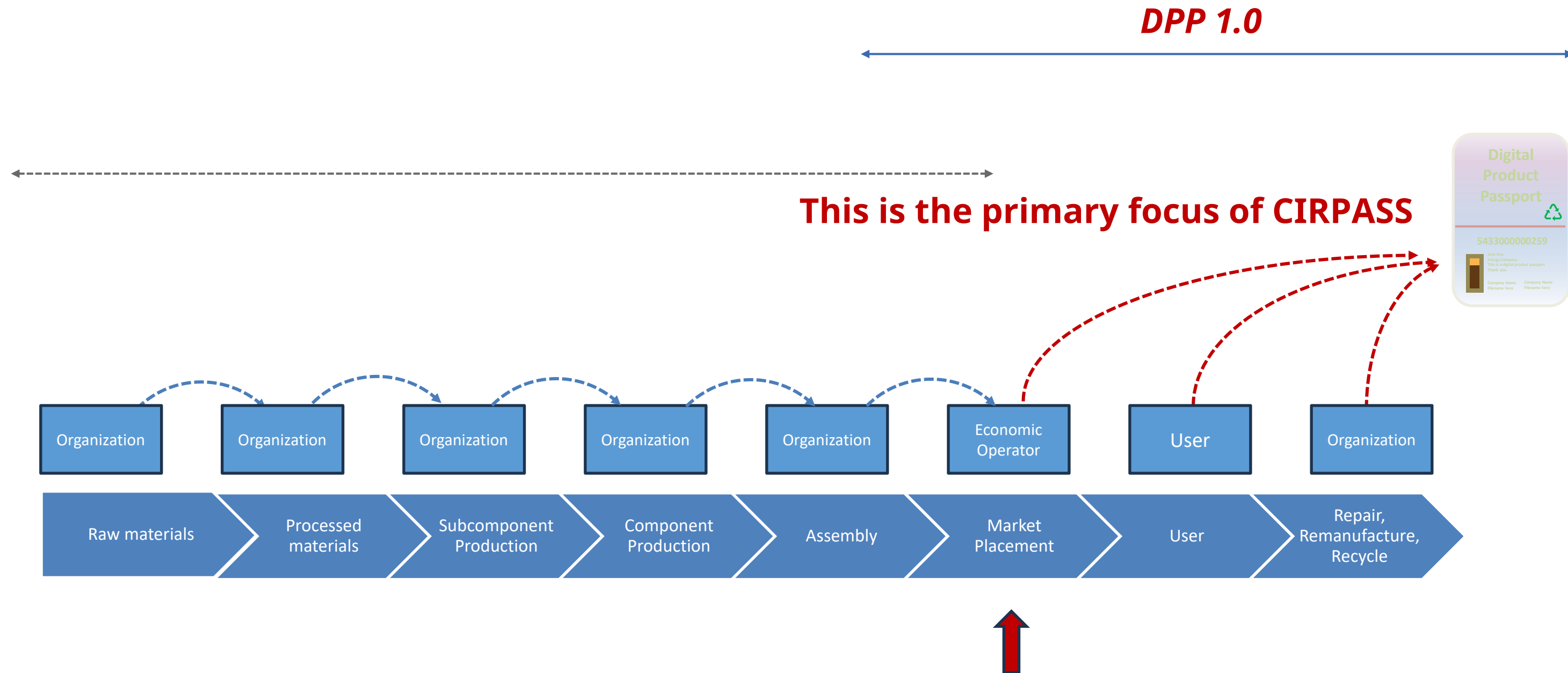


Tools for collaborative work

Critical Raw Materials Supply Chains



Alignment with Related Efforts



Tools for Collaborative Work

CRM Project Github

United Nations - Critical Raw Materials

uncefact.github.io/project-crm/

UN/CEFACT CRM G... United Nations - Cr... OCIO Dashboard -... 41st UN/CEFACT Fo... Traceability Vocabu... Compliance Budge... IWW QiqoChat eApprovals NEW

United Nations CRM

About the project Delivery Standards Vocabulary Pilots

Critical Raw Materials

Scaling traceability and transparency through decentralisation and digital standards

[Join our chat channel](#)

CRM Project Bi-Fold

PROJECT TIMELINE

Develop draft deliverables
NOV DEC JAN FEB 2023

Testing with pilot implementation
MAR APR MAY JUN JUL AUG 2024

Public review and project finalization
SEP OCT NOV DEC 2024

HOW TO GET INVOLVED

CONTRIBUTORS

Provide skills and input to help design the project's direction and deliverables.

IMPLEMENTERS

Participate in pilots to test tools, standards and deliverables.

OBSERVERS

Follow the activities and outcomes of the project through emails and Slack.

JOIN THE CRITICAL RAW MATERIALS PROJECT

Learn more about how to participate: uncefact.github.io/project-crm

Nancy Norris
Project Lead
nancy.norris@gov.bc.ca

Steve Capell
Lead Editor
Steve.Capell@gmail.com

CRITICAL RAW MATERIALS (CRM)

CRM are metals and non-metals that are essential to the economy, of which the supply may be at risk due to geological scarcity, geopolitical issues, trade policy or other factors.

The CRM Project will test deliverables with three CRM supply chains:

COPPER

From BC, Canada

LITHIUM

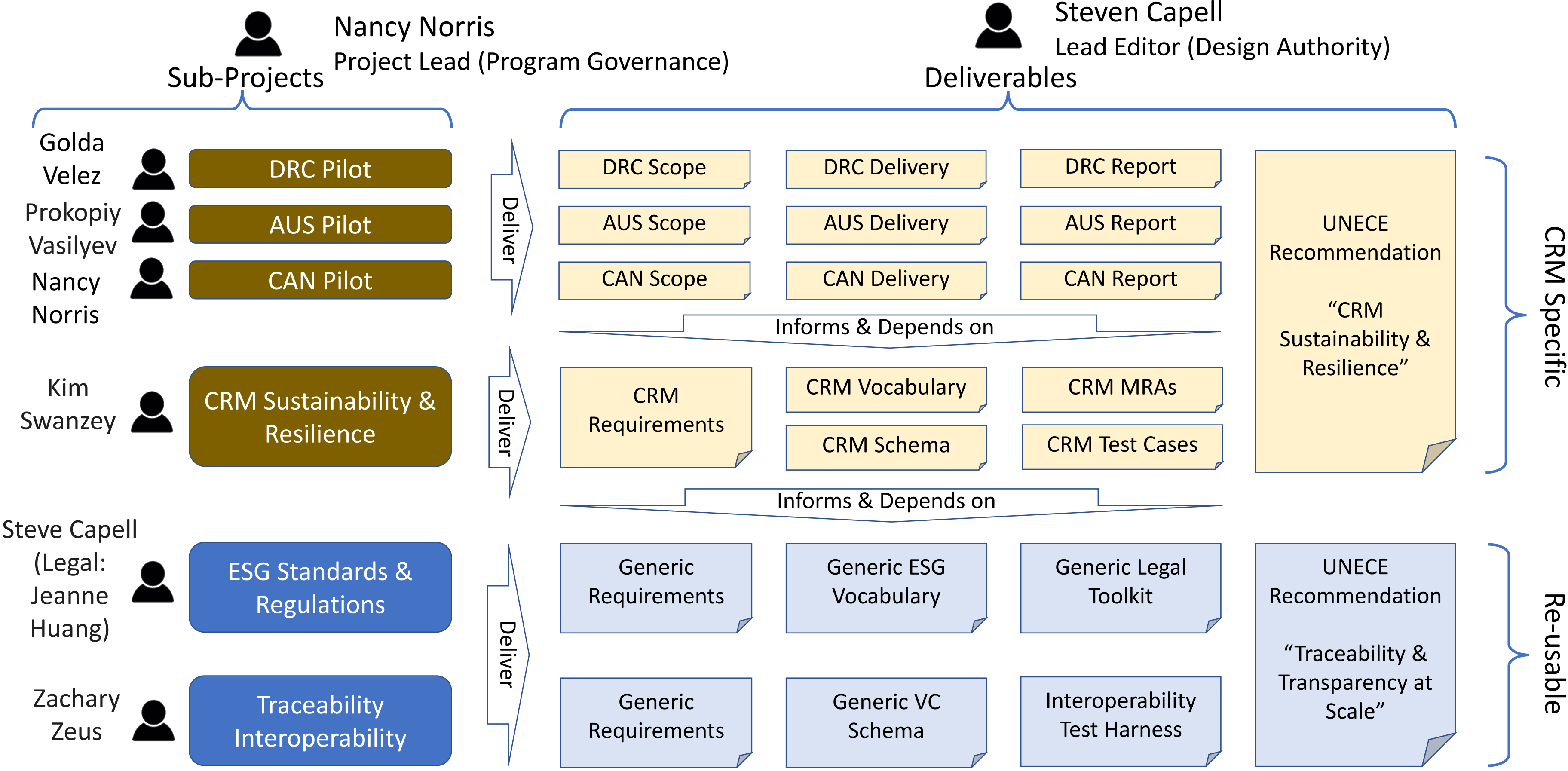
From Australia

COBALT

From Democratic Republic of Congo

UN/CEFACT
CRITICAL RAW MATERIALS TRACEABILITY & SUSTAINABILITY PROJECT

Project Deliverables



Nancy Norris
Project Lead (Program Governance)



Steven Capell
Lead Editor (Design Authority)

Sub-Projects

Deliverables

Golda Velez **DRC Pilot**

Prokopi Vasilyev **AUS Pilot**

Nancy Norris **CAN Pilot**



DRC Scope	DRC Delivery	DRC Report
AUS Scope	AUS Delivery	AUS Report
CAN Scope	CAN Delivery	CAN Report

Informs & Depends on

Kim Swanzey **CRM Sustainability & Resilience**



CRM Requirements	CRM Vocabulary	CRM MRAs
	CRM Schema	CRM Test Cases

Informs & Depends on

UNECE Recommendation
"CRM Sustainability & Resilience"

CRM Specific

Steve Capell (Legal: Jeanne Huang) **ESG Standards & Regulations**



Generic Requirements	Generic ESG Vocabulary	Generic Legal Toolkit
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Zachary Zeus **Traceability Interoperability**

Generic Requirements	Generic VC Schema	Interoperability Test Harness
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UNECE Recommendation
"Traceability & Transparency at Scale"

Re-usable

CRM Project Workstream Leads



Zachary Zeus

Traceability Interoperability



Kim Swanzey

Core Sustainability Vocabulary



Dr. Jeanne Huang

Legal/Ethical



Golda Velez

DRC Cobalt Implementation



Nancy Norris

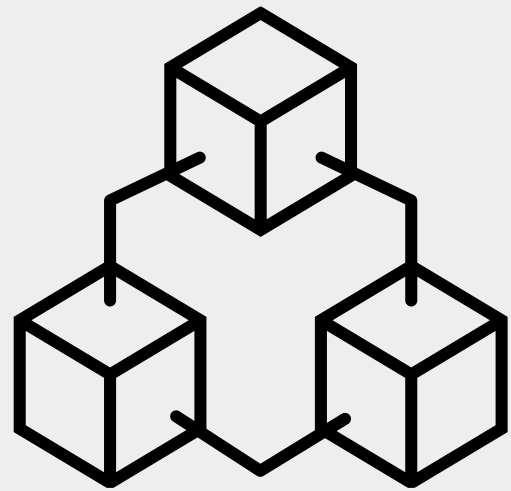
Copper Implementation



Dr. Prok Vasilyev

Lithium Implementation

1. Traceability and Interoperability Overview



**Data
identification
and exchange**



**Implementable
Open and free
Collaborative
Scalable decentralised model
Independently verifiable**

The Motivation for UN Recommendation 49



The Scope of UN Recommendation 49

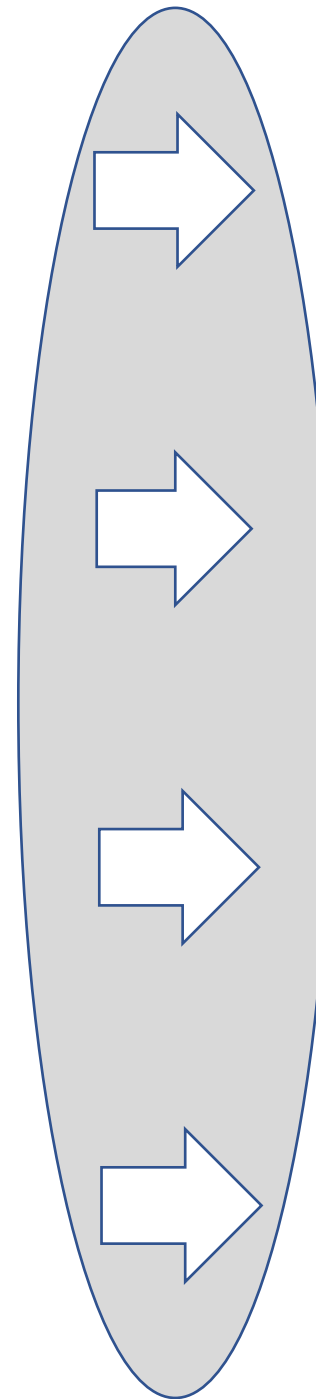


There's too many traceability platforms, which do I choose?

There's a mountain of standards & regulations to make sense of!

I'm not comfortable sharing sensitive information

This all seems too complex and expensive, who's paying?



Pick any one that conforms to the UN transparency protocol.

A simple vocabulary. Separation of data from assessment of data.

You are empowered share only what delivers material value.

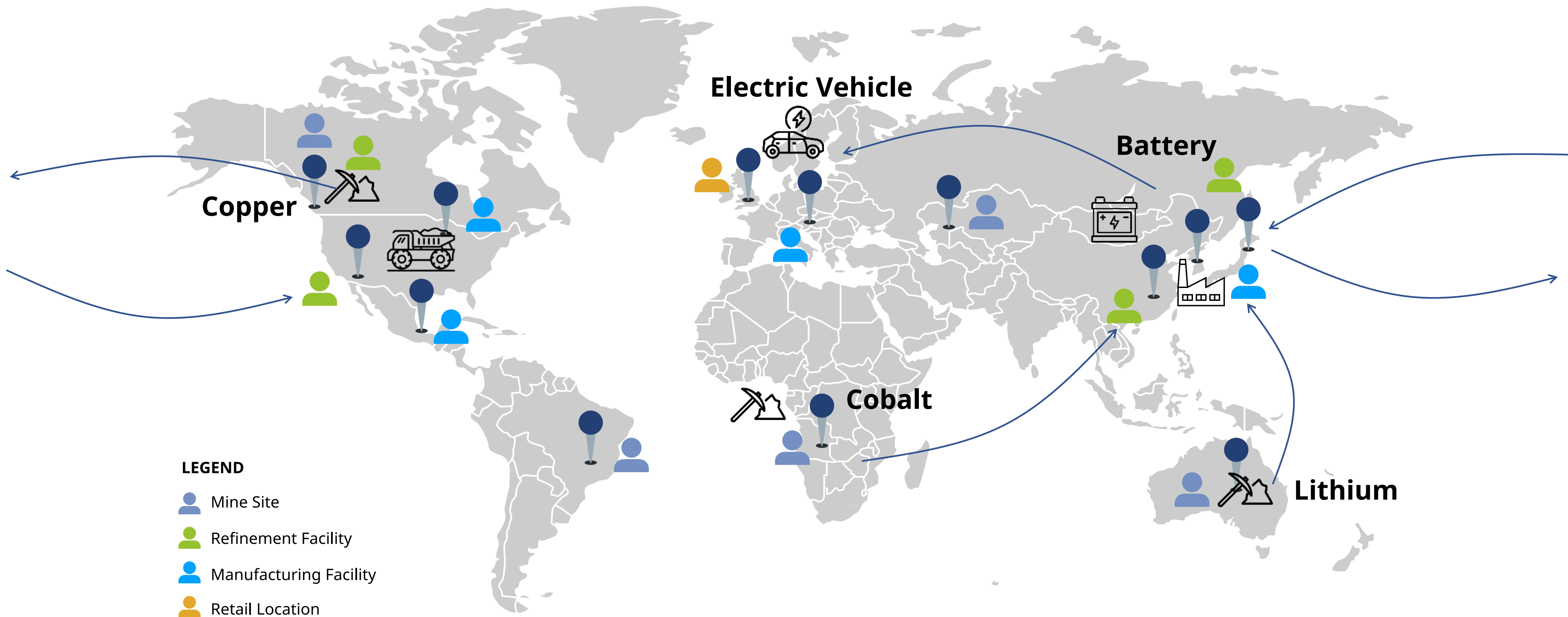
The UN protocol is so simple that implementation is trivial & cheap.



The UN/CEFACT Transparency Protocol

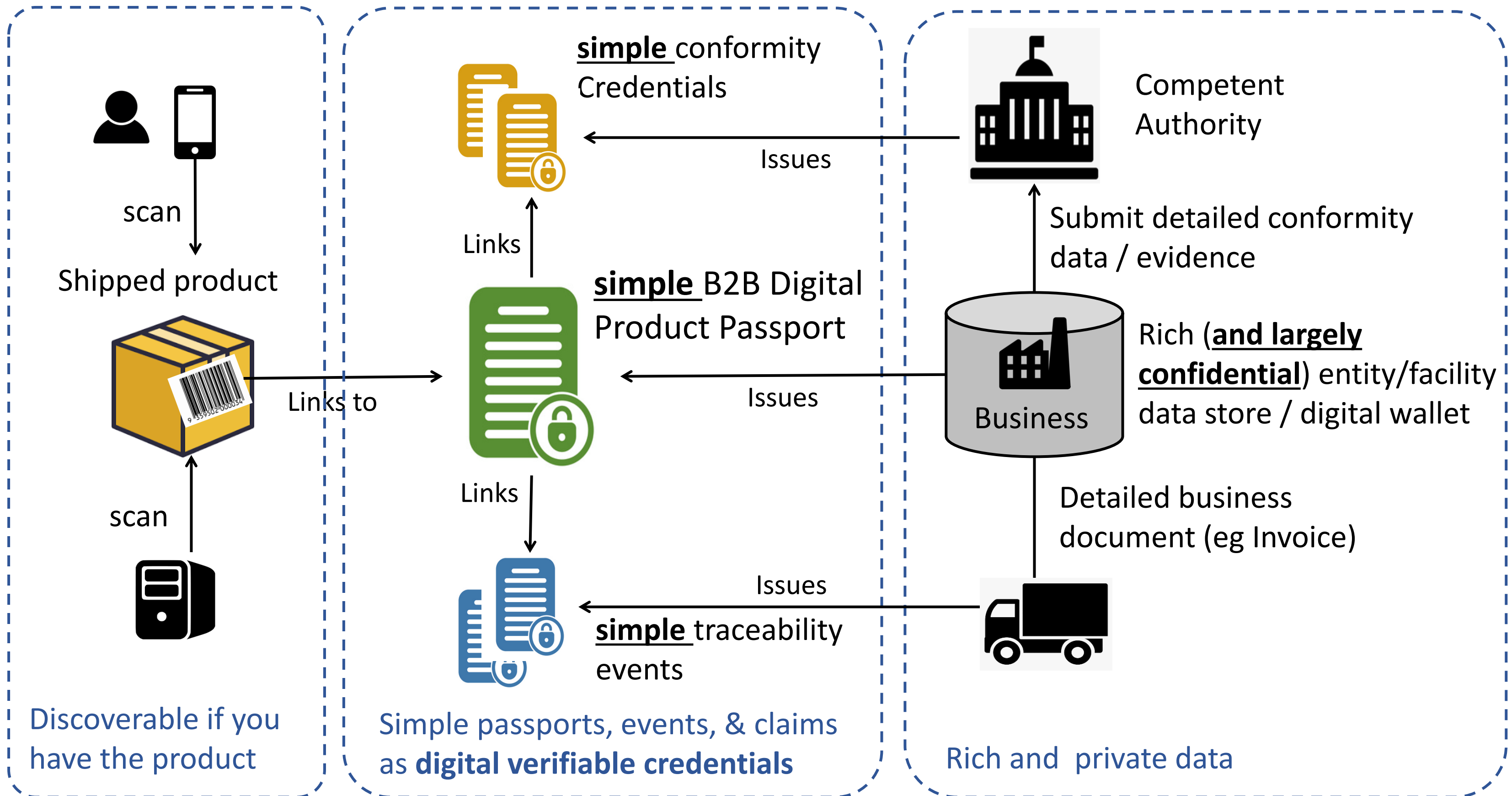
It's a protocol, not a platform

Leave data where it is, but link it together when needed

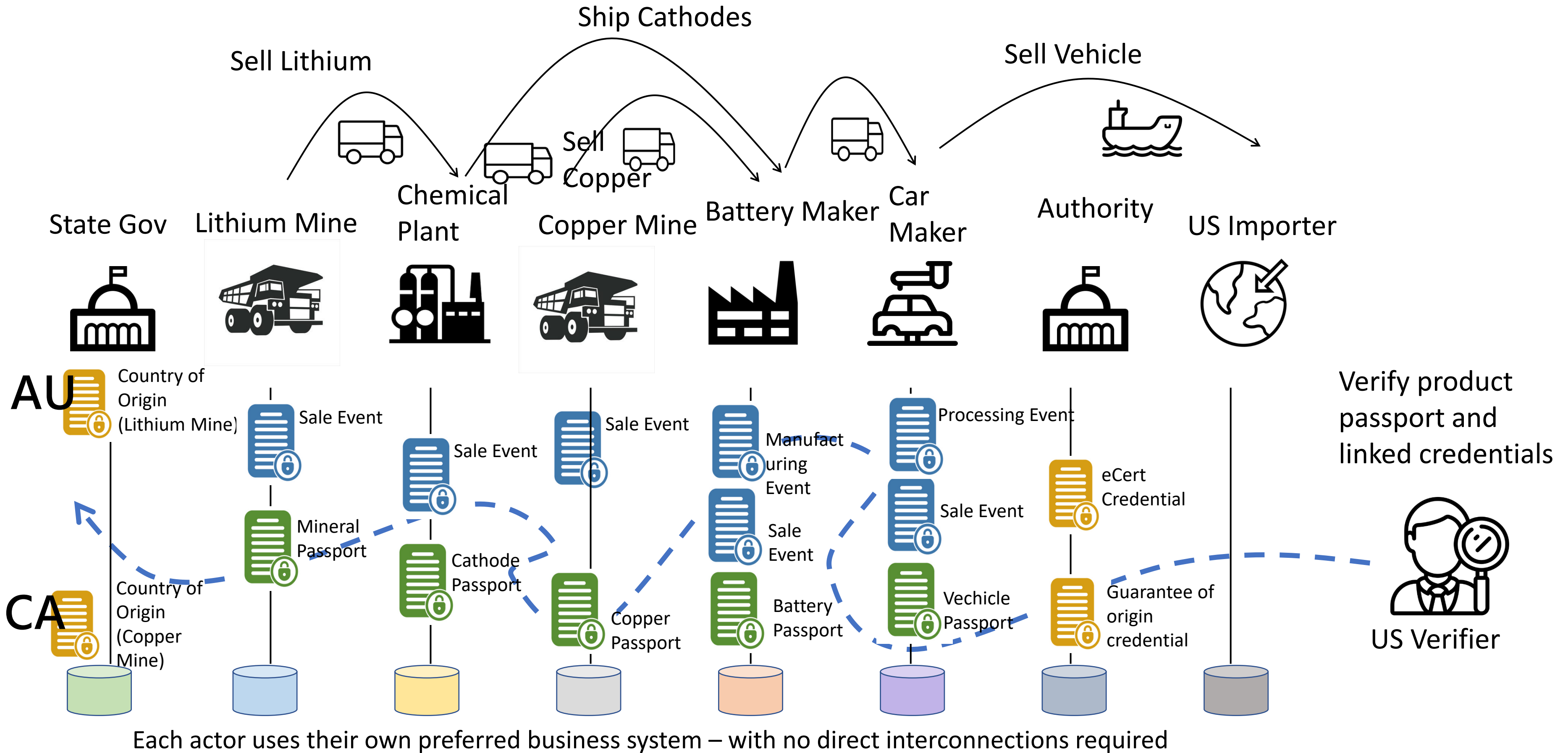


Thousands of platforms, millions of value-chains, billions of transactions

So how does this protocol work?

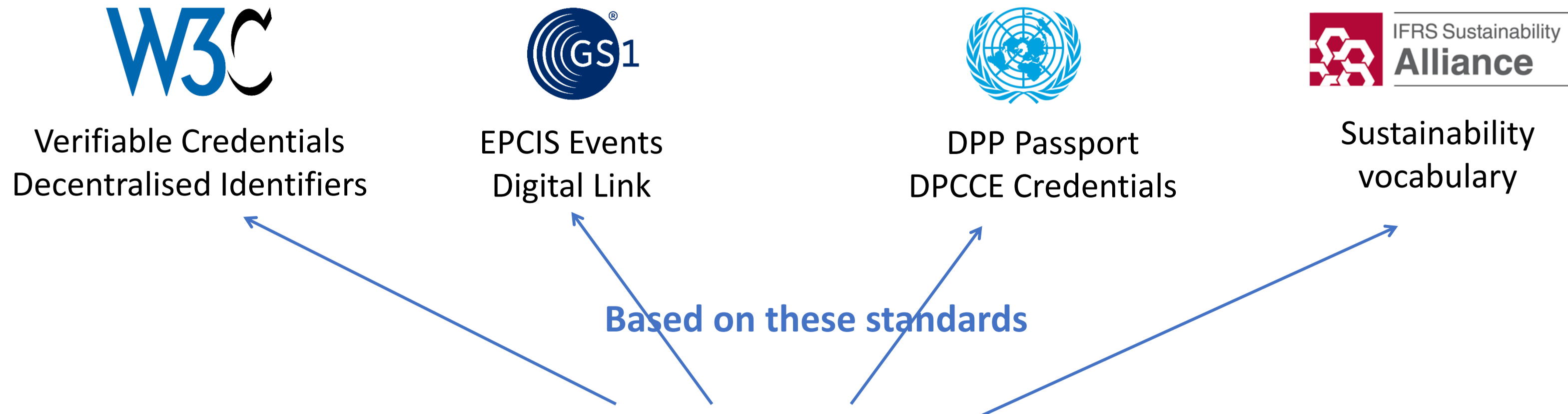


And what that looks like across a whole supply chain – Critical Minerals



We are building on existing good work..

That could have raised as many questions as it answered – but we’ve run out of time! Rest assured that we have answers to all questions that we’ve thought about so far. And they’ll be described in UNECE recommendation 49



UNECE Recommendation 49

“Transparency at Scale”

https://unece.org/sites/default/files/2023-10/Rec49_ToR-v0.8.pdf

And have delivered some very early draft standards

B2B Product
Passport



<https://jargon.sh/user/unece/DigitalProductPassport/v/working/artefacts/readme/render>

Product
Conformity
Credential



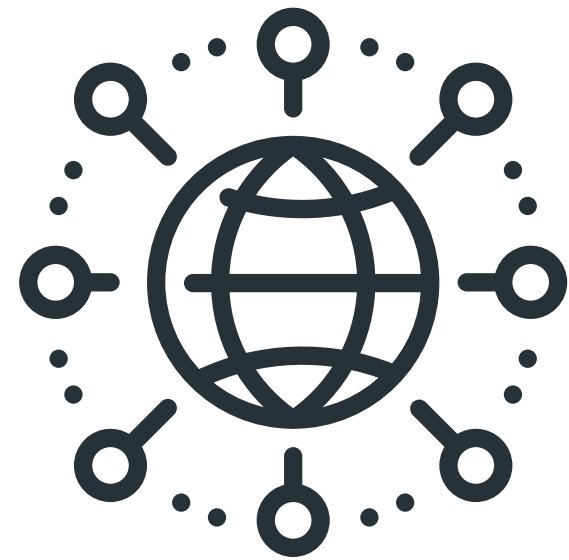
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Product
Traceability
Events

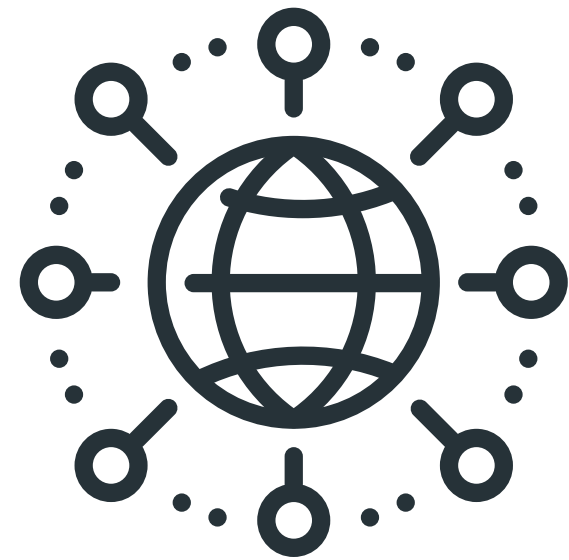


<https://jargon.sh/user/unece/traceabilityEvents/v/working/artefacts/readme/render>

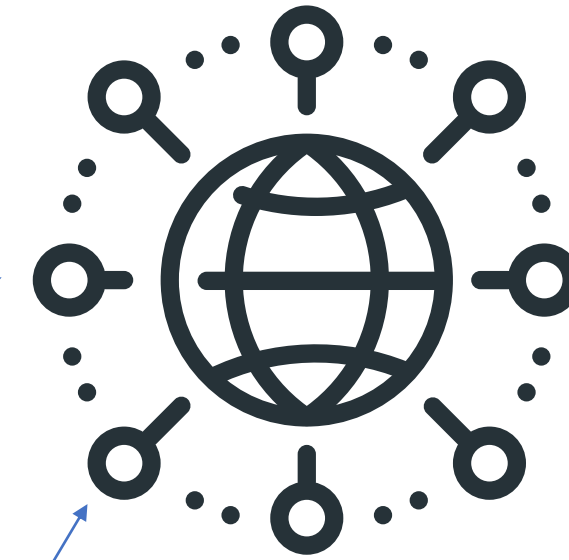
We imagine something like this:



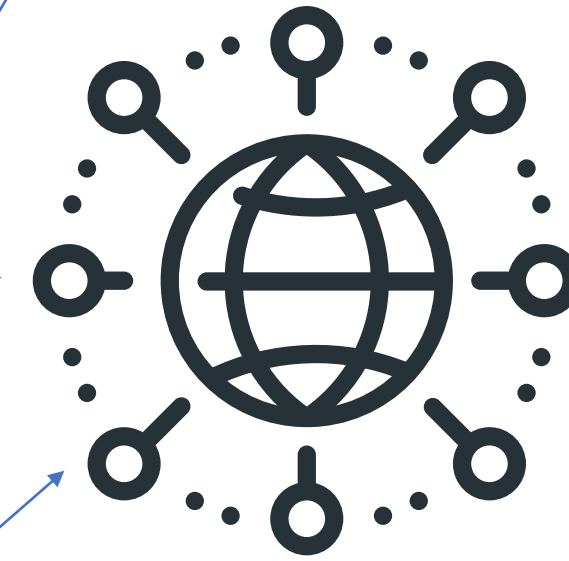
UNCEFACT
Transparency
Protocol



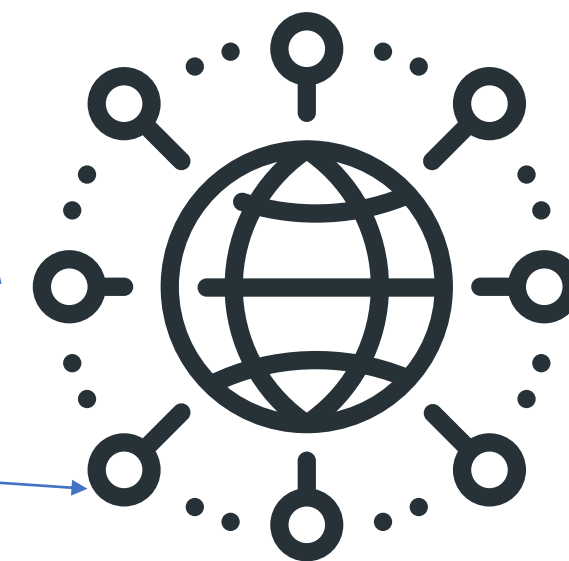
UN Critical
Minerals
Transparency
Protocol



Aus CRM
Transparency
Protocol



Can CRM
Transparency
Protocol



DRC CRM
Transparency
Protocol

Our focus right now
is here

So we can support
the pilots

CRM Traceability Interoperability workstream is validating the requirements & providing recommendations to implementors

B2B Product
Passport



Product
Conformity
Credential

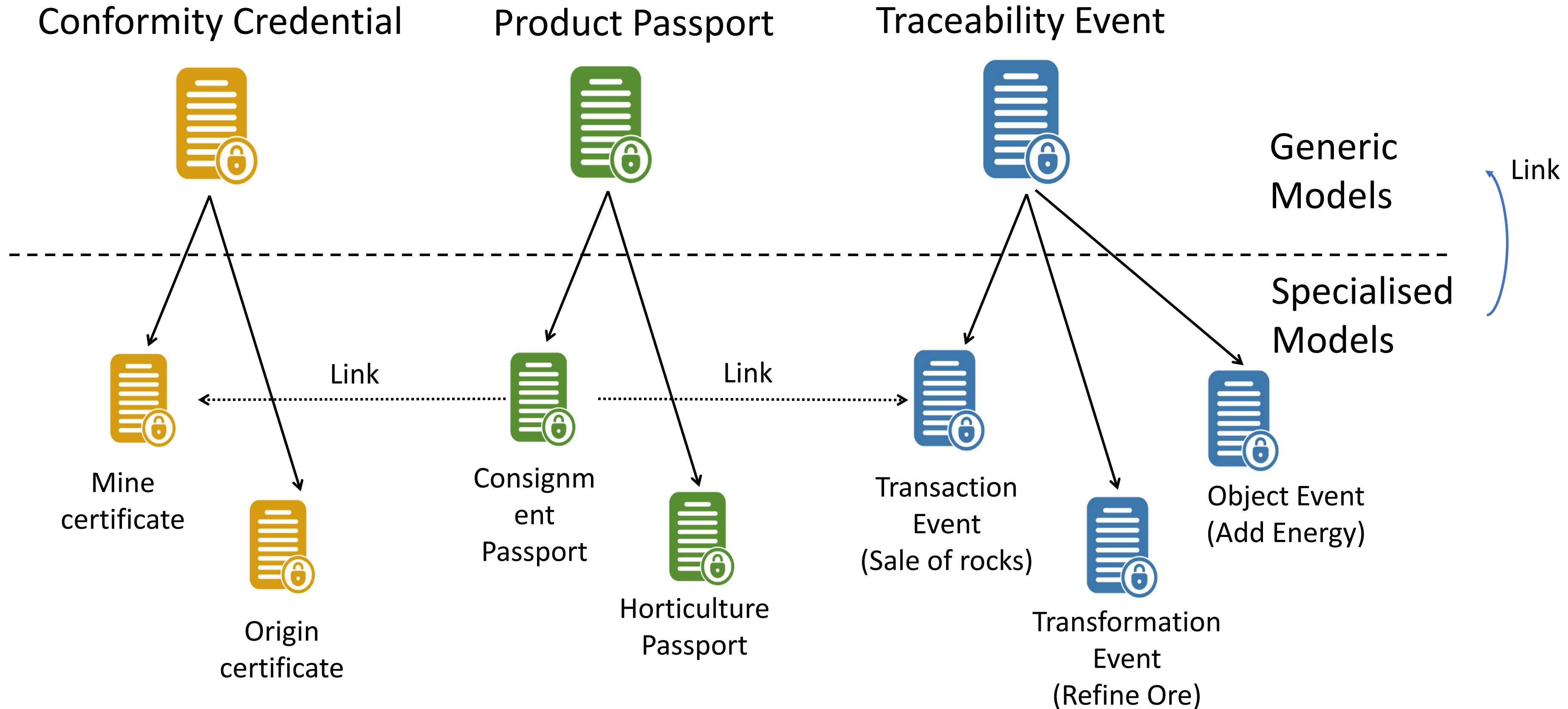


Product
Traceability
Events



Answering the question:
What aspects of the generalized UNTP need to be extended to meet the unique requirements of the Critical Minerals Pilot?

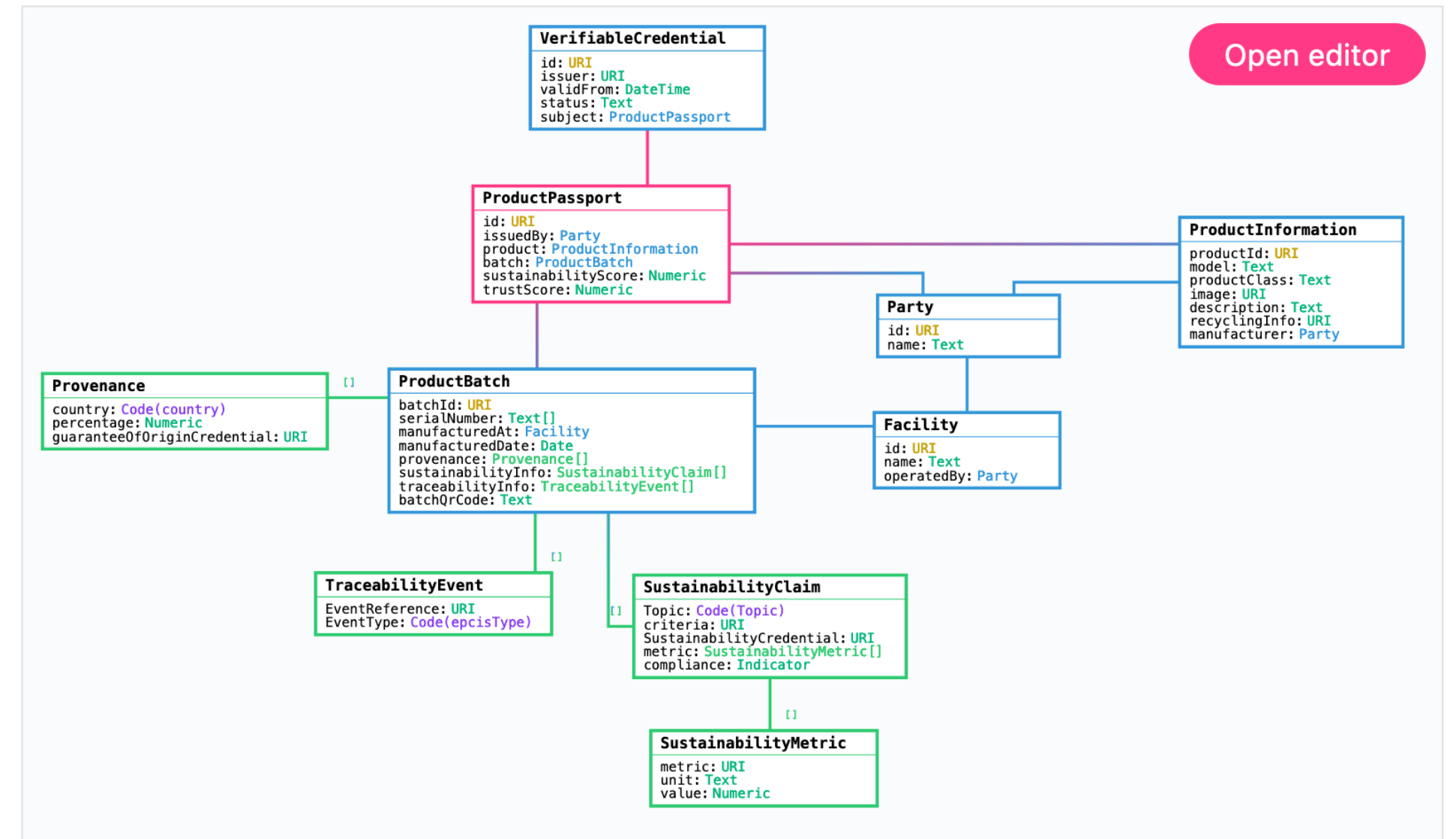
Hypothesis – generic standards are extensible



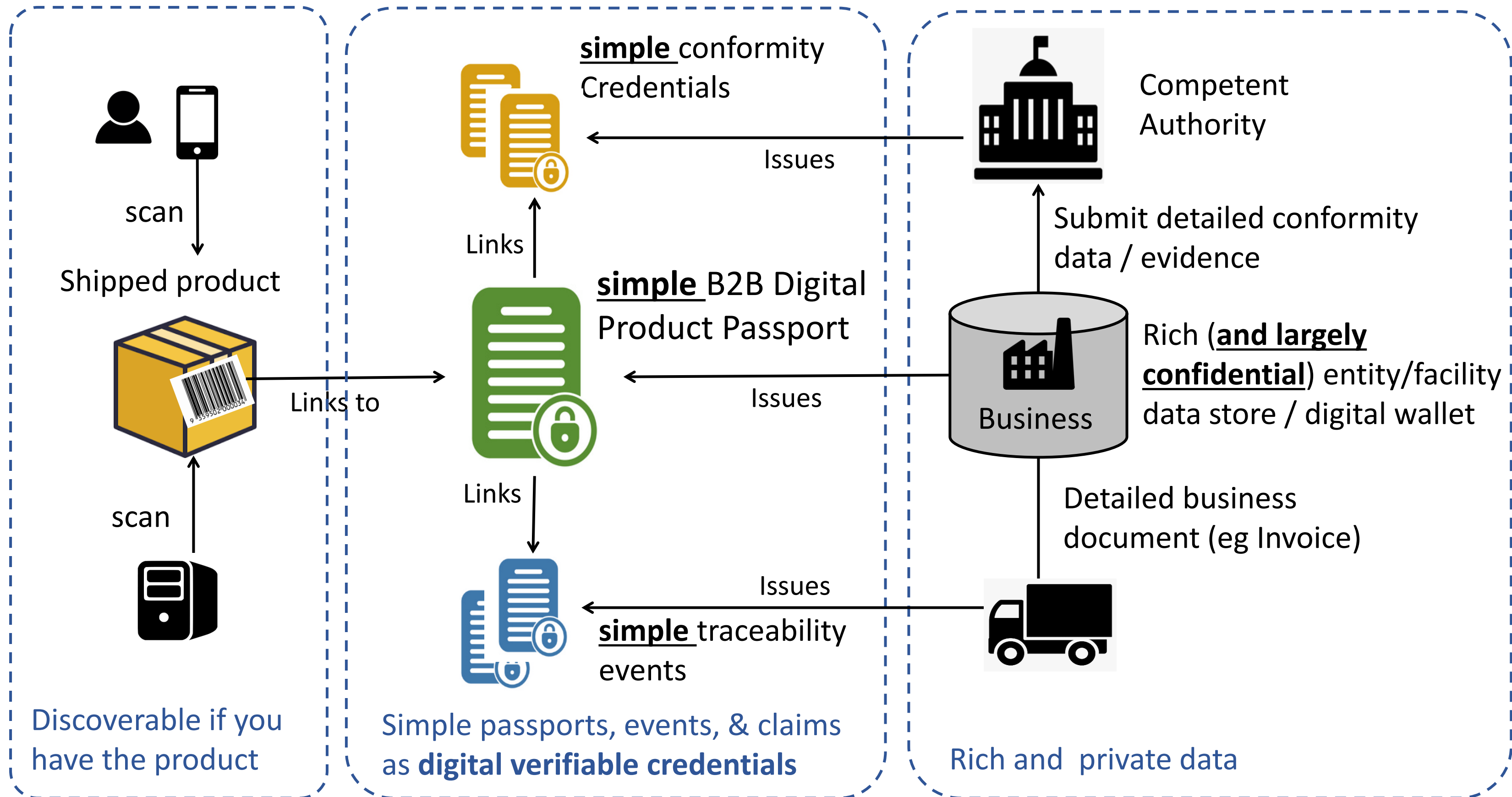
Examples

- CBAM: Access to European markets to assess Carbon tariffs
- Goods must come accompanied with Digital Product Passport that complies with the UNECE DPP standard
 - <https://jargon.sh/user/unece/DigitalProductPassport/v/working>
- The DPP must include verifiable credentials from a trusted government authority that indicates the direct Scope 1, Scope 2 and Scope 3 emissions of the goods
- If the credentials aren't verified by a government authority, or they don't exist, or the goods don't come with a DPP – the tariff assessed will be the top tariff for the country and goods

B2B Digital Product Passport

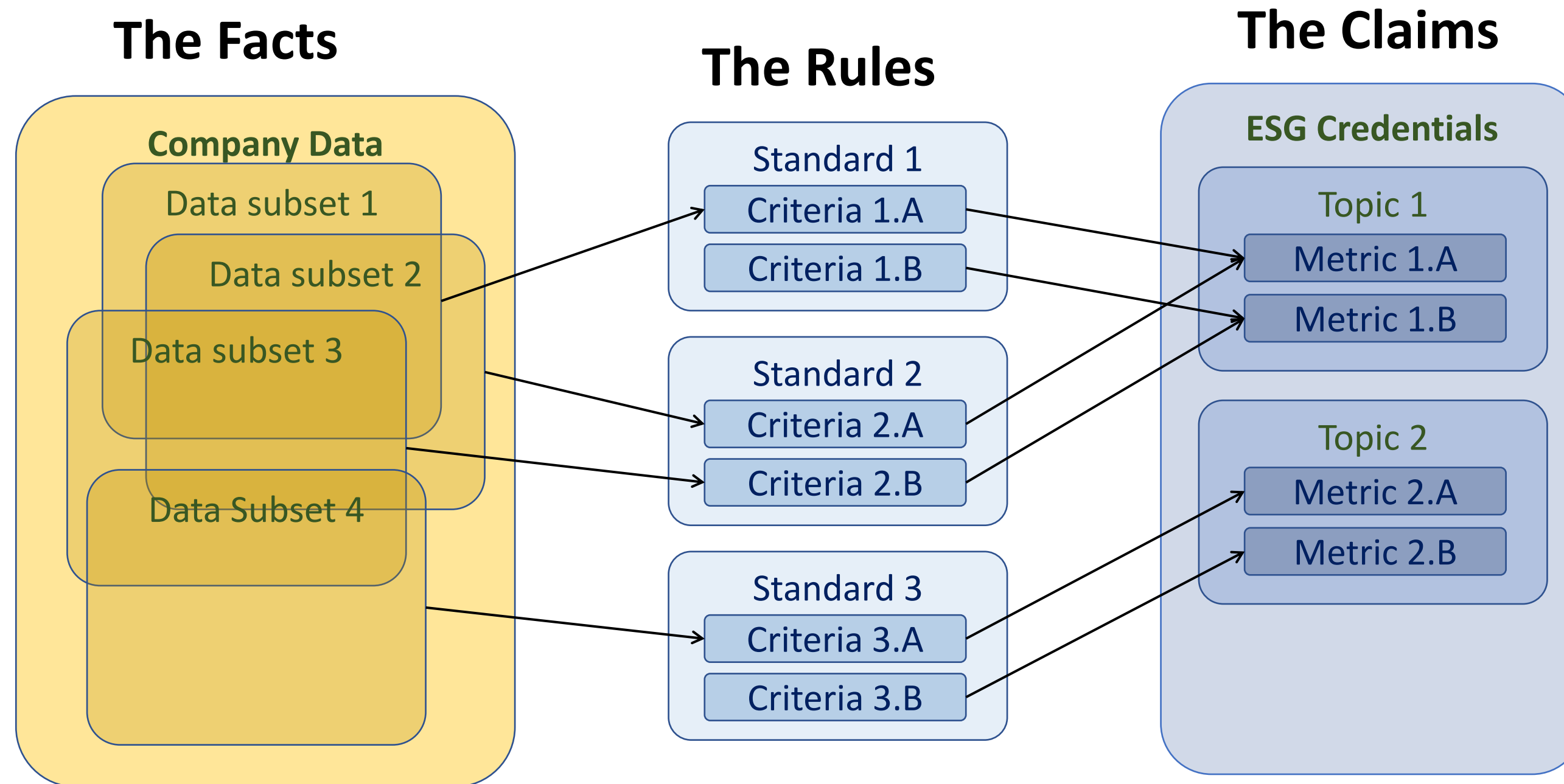


What about Security -> Back to this picture



Separate Facts, Rules & Claims

Hypothesis: There is a non-overlapping set of ESG topics (eg “environment.emissions”) and metrics (eg “Co2e.Intensity”). Many different standards exist and each will define assessment criteria to determine an ESG metric. A company should be able to maintain a single set of organisation data (the facts) and re-use those facts to test compliance with different criteria.



<https://jargon.sh/user/unece/LandManagement/v/working/artefacts/readme/render>

<https://jargon.sh/user/unece/ConformityCredential/v/working/artefacts/readme/render>

Confidentiality in a decentralised world

In centralised system, access to information is controlled by authenticating users and managing access control rules so that they can see only what they are allowed to see. But decentralised models work choosing how much data to share and whether to hide it so it's hard to find, or encrypt it so it can't be read, or redact it by striking out the sensitive bits.

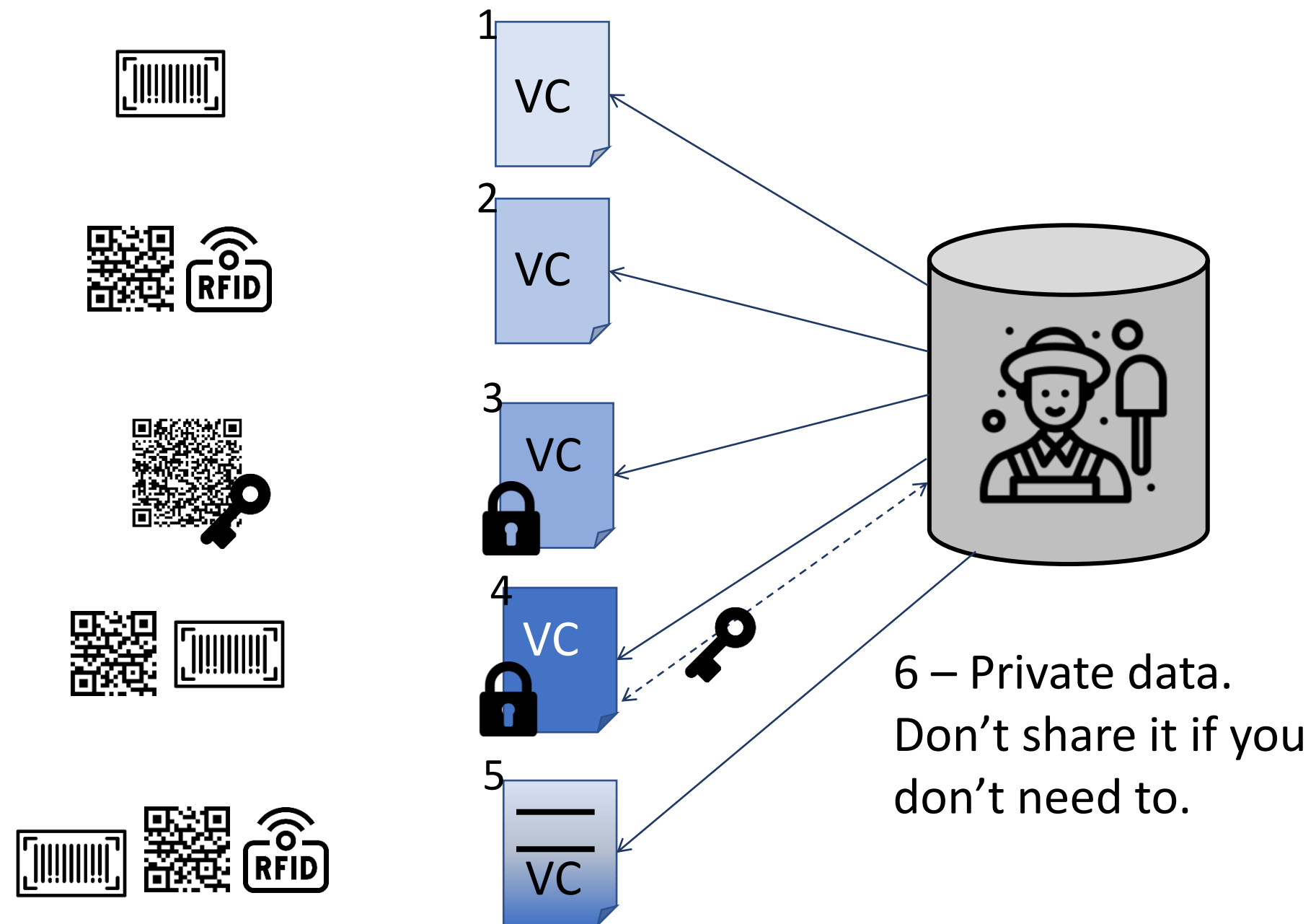
1 - Public data linked to a guessable ID.
Anyone can get the data.

2 - Public data, un-guessable ID. Get data only if you have the goods.

3 - Encrypted data, key with goods or doc.
Get data if you have the goods or doc.

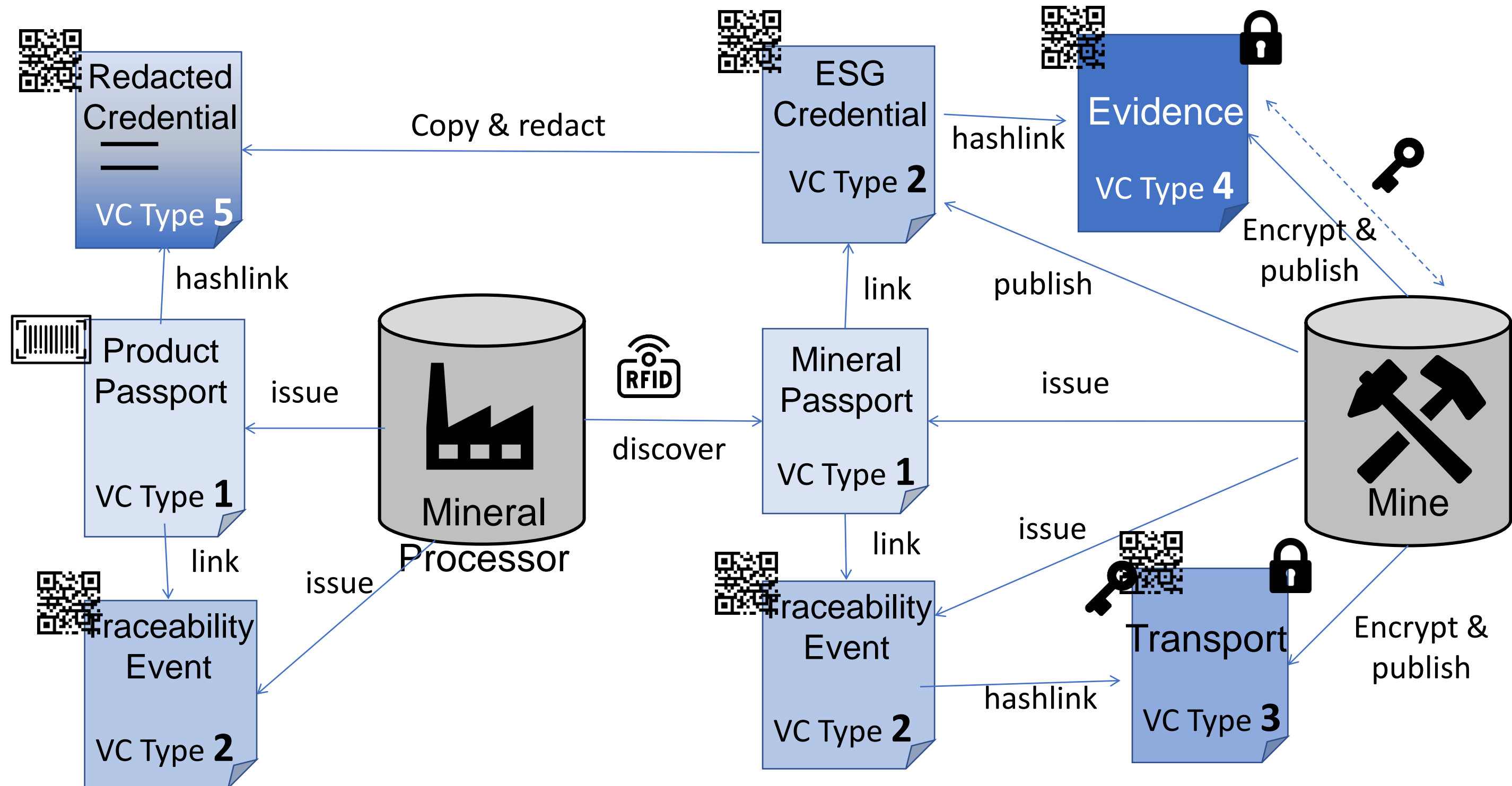
4 - Encrypted data, key on request. Ask for the key to get the data.

5 - Any data, selectively redacted. Can't see the redacted data.

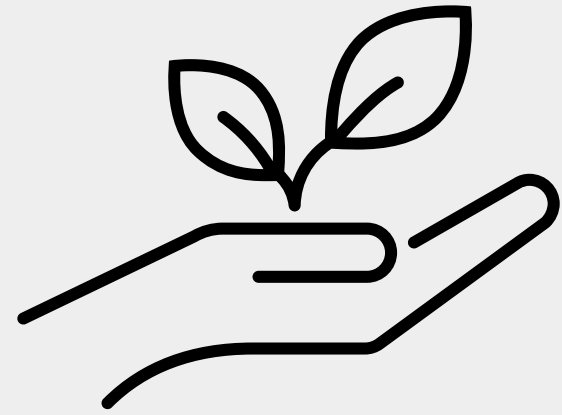


Putting it all together

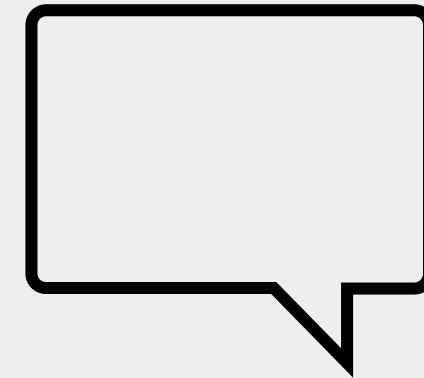
All these confidentiality and integrity measures are not mutually exclusive. In any given supply chain it is most likely that all will be used together. Use the right solution for the right problem.



2. Core Sustainability Vocabulary Overview



**Standards and regulations
applied across
supply chain**



**Sustainability criteria
Product vocabulary
Copper supply chain**

3. Legal/Ethical Overview

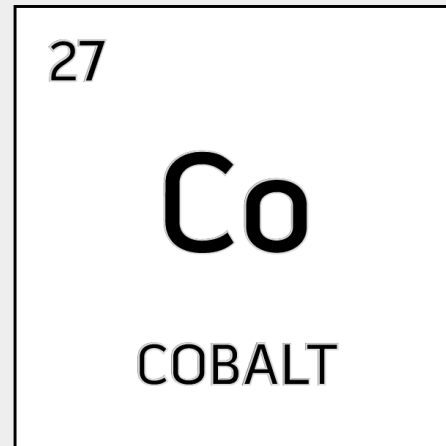


**Audit and verification
processes recognized across
jurisdictions**

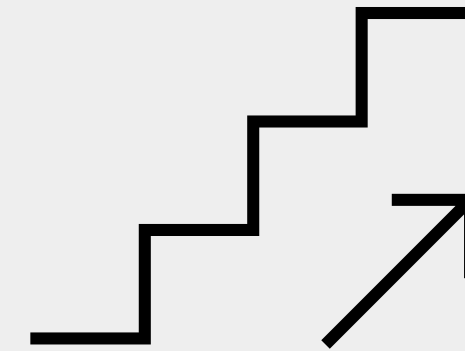


**Legal enforcement review
Mutual law recognition
Ethical consent for interviews**

4. DRC - Cobalt Implementation

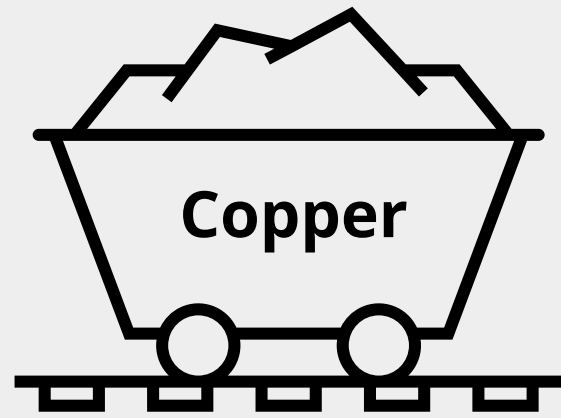


**Social & governance criteria
and
peer-to-peer trust models
Addressable attestations**

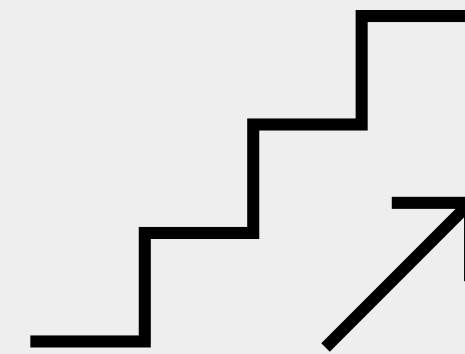


**Identify supply chain stages
Communicate with stakeholders
Test pilot recommendation**

5. Canada - Copper Implementation

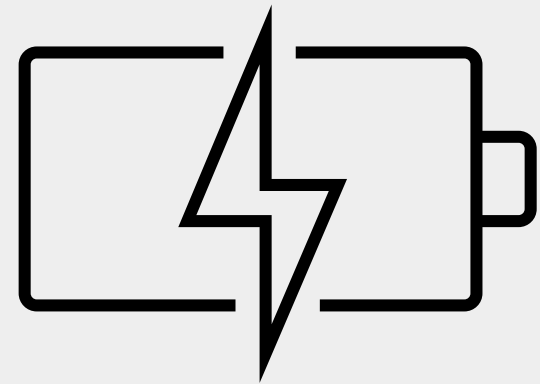


**Sustainable and
environmental credentials
verification**

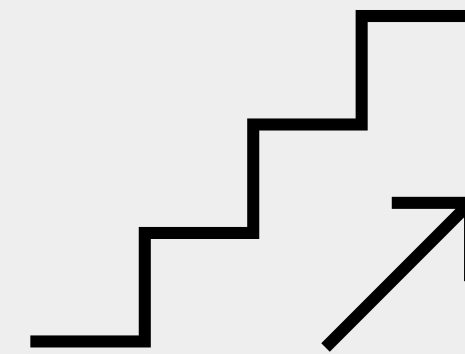


**Stakeholder communication
Technology test pilot**

6. Australia - Lithium Implementation



**Consider traceability
and sustainability
standards in the battery
supply chain**



**Identify stakeholder
Test pilot traceability and
sustainability**

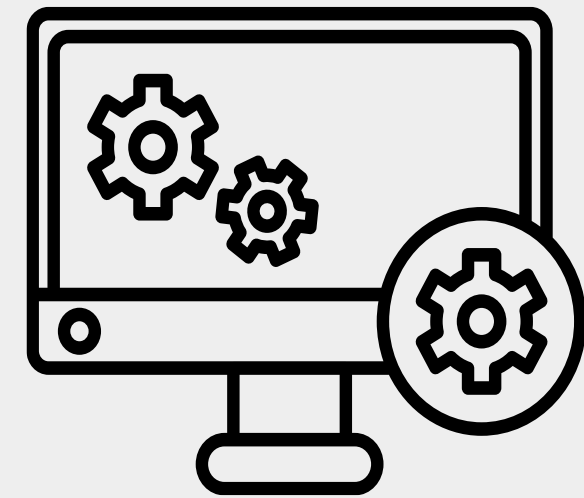
Types of participants



**Primary Producers
& Manufacturers**



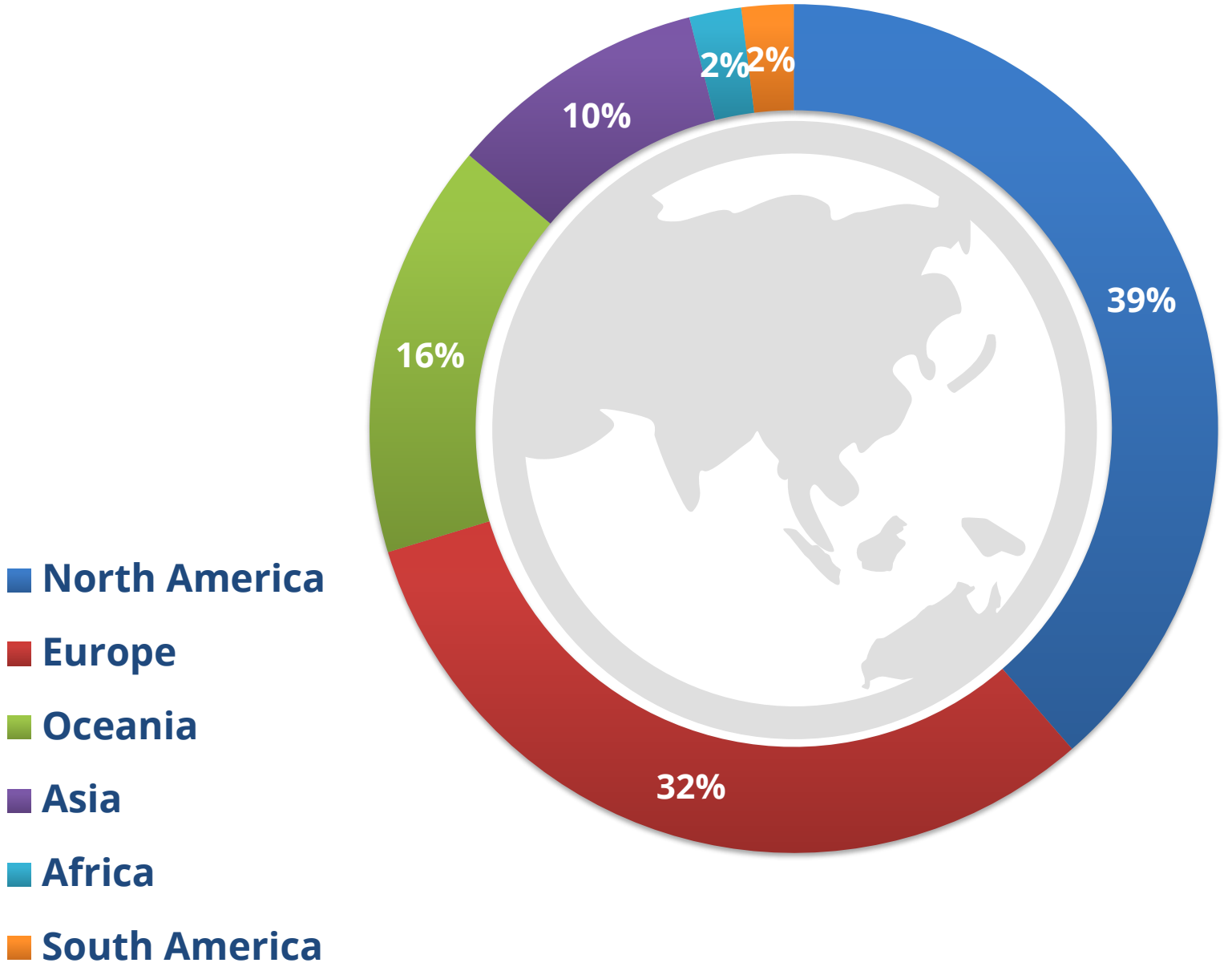
**Certifiers, Auditors, &
Standards Setters**



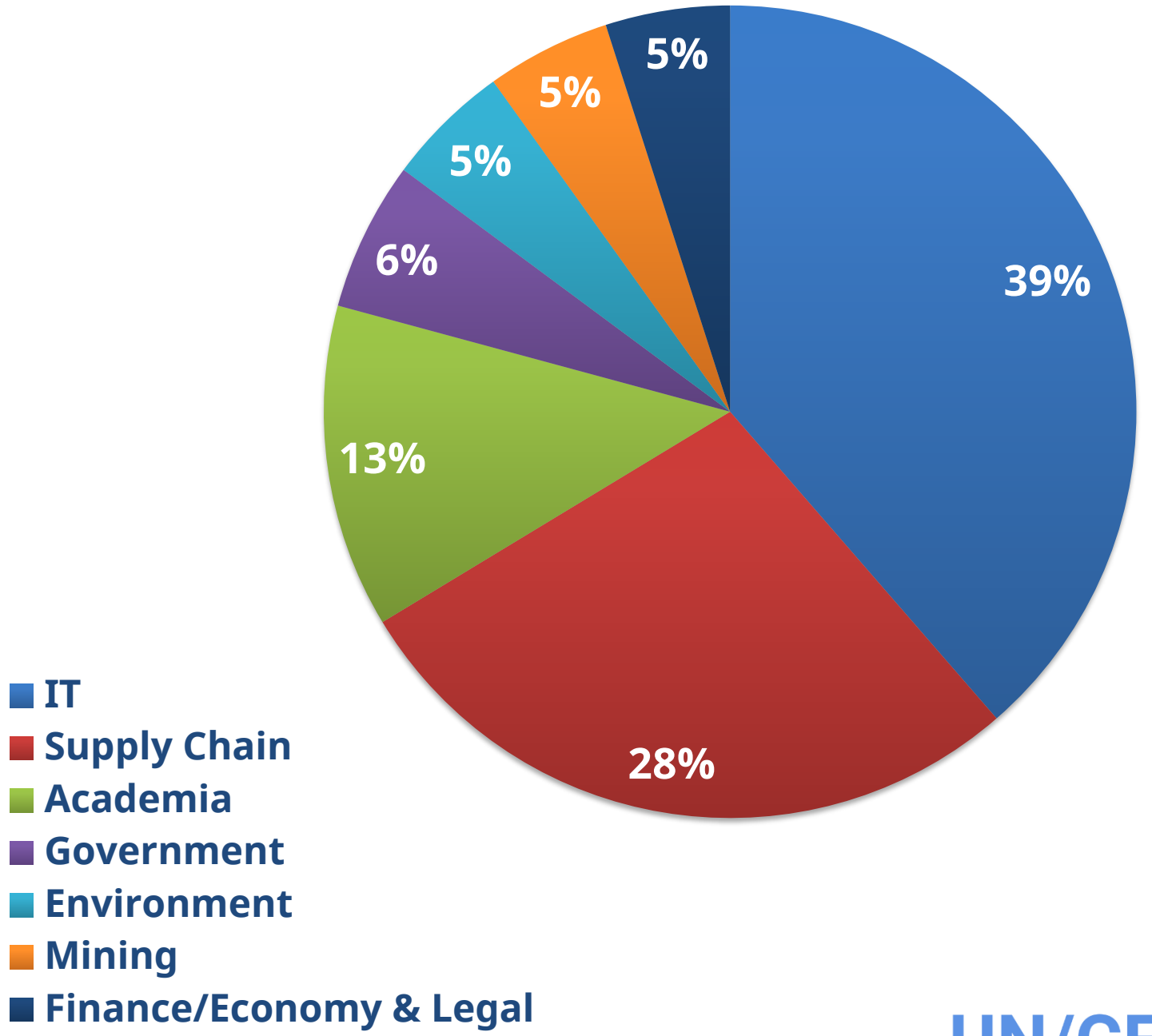
**Software
Providers**

Project Survey Demographics

All Members' Regions



Industry Sectors Supporting the Project



Members Interests - Workstreams

57%

Traceability Interoperability

23%

Core Sustainability Vocabulary

11.5%

Legal/Ethical

10%

DRC Cobalt Implementation

13%

Copper Implementation

10%

Lithium Implementation

Q & A

Contact Us



Nancy Norris

Nancy.Norris@gov.bc.ca



Steve Capell

Steve.Capell@gmail.com

