

# Mines Digital Trust



Ministry of  
Mining and  
Critical Minerals



**BC**  
**Critical Minerals**  
**Office**



The Mining Association of Canada  
ADVOCACY STEWARDSHIP COLLABORATION



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COPPER

# What is Mines Digital Trust?



**Mines Digital Trust (MDT) is a collaboration between the Government of British Columbia, mining operators, industry associations, performance certifiers and technology providers.**

# Project Drivers



**Growing demand  
for responsibly  
sourced products  
from consumers,  
investors and  
regulators**



**Growing  
demand for  
critical minerals  
that B.C. is well  
positioned to  
supply**



**B.C.'s world  
leadership in  
advanced  
technology  
for identity  
verification**

# Digital Credentials

*Digital versions of everyday credentials like education certificates, permits, licenses & registrations*



# Testing completed to date

## LEGEND

## Digital Credentials



## Towards Sustainable Mining



Mines Act Permit



## Business Registration



GLEIF  
Legal Entity Identifier



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Digital Trust Service Provider

BC Digital  
Trust Services

Northern Block  
Orbit

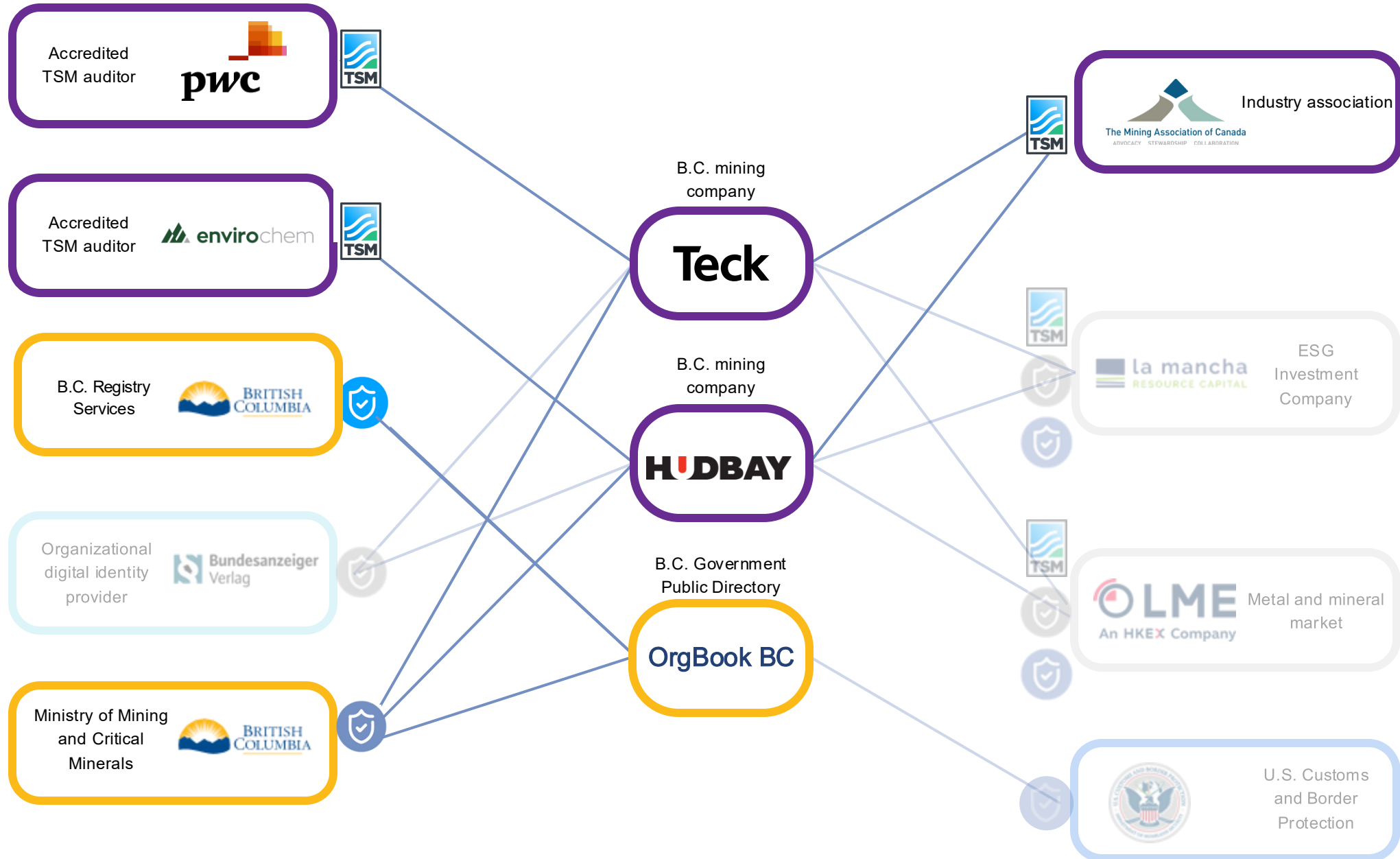


Neoflow



Spheryty

To Be  
Determined

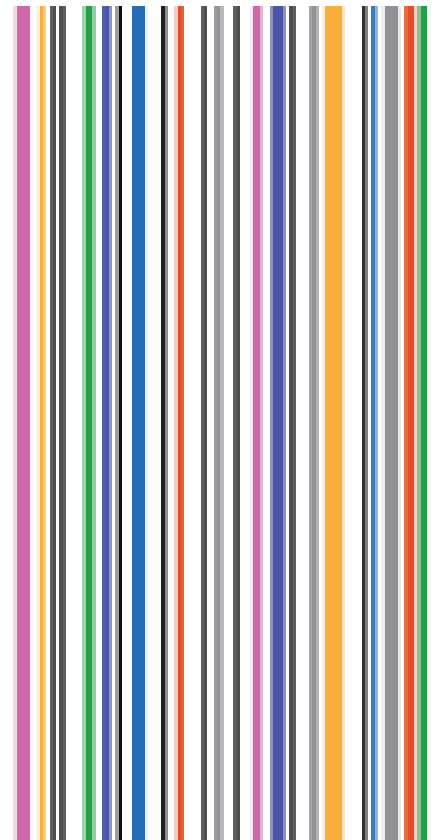




# Traceability at Scale

## *UN Transparency Protocol (UNTP)*

### Critical Raw Materials



UN / CEFAC

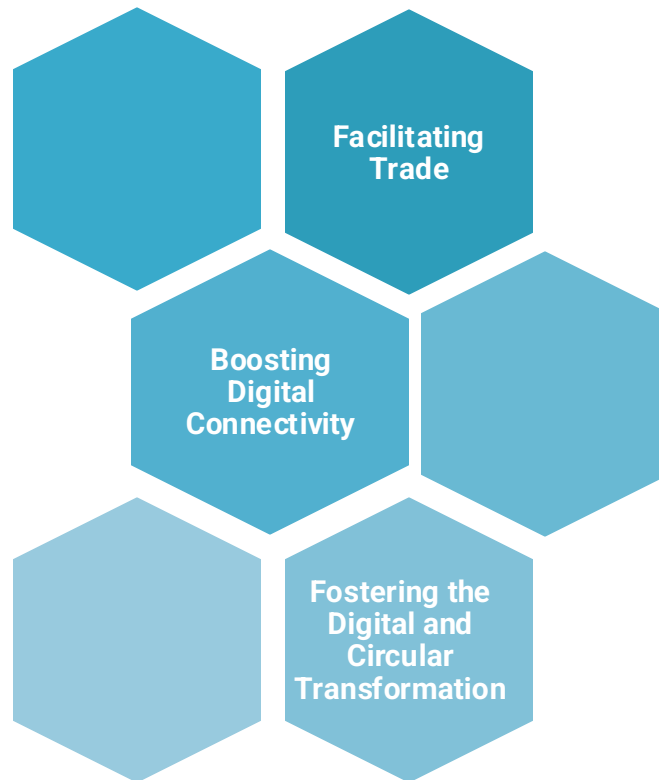


# Mission and Structure of UN/CEFACT

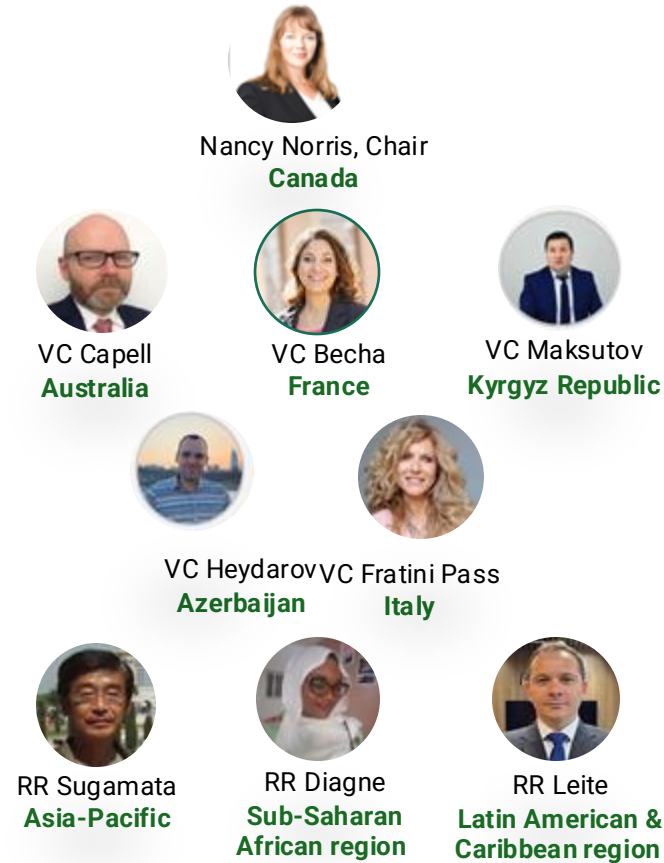


UNECE

## Key Focus Areas



## UN/CEFACT Bureau



## UN/CEFACT within the UN organization





# Impact and Relevance



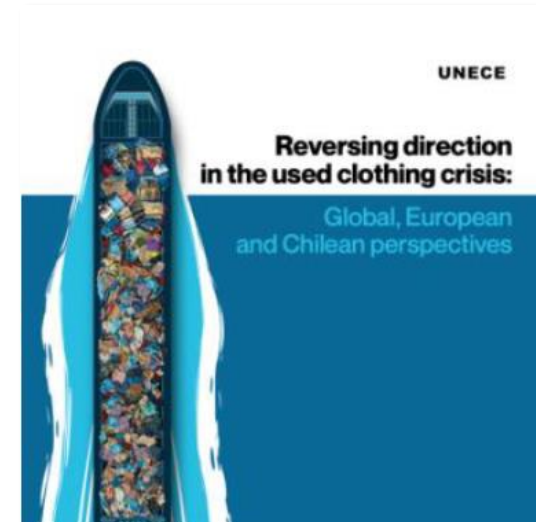
UNECE

UN/CEFACT's 1700 experts have developed **48 policy recommendations** and **950 e-business standards** that are used by governments and businesses

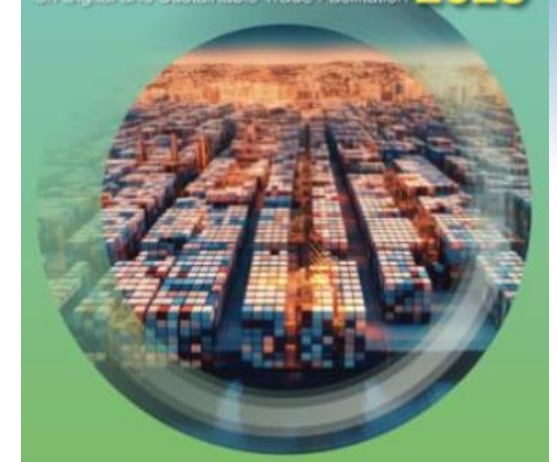
*The annual release of **flagship e-business standards** and **upgrade of the UN/LOCODE application** system*

**DG MOVE** adopted UN/CEFACT standards **UN/EDIFACT** as a basis for **EU delegated regulation 2024/2024: eFTI** (adopted July 2024)

From 2021 to 2023, the trade facilitation implementation rate in the ECE region increased from 76 to 80 %



Digital and Sustainable Trade Facilitation in the United Nations Special Programme for the Economies of Central Asia (SPECA)  
Based on the United Nations Global Survey on Digital and Sustainable Trade Facilitation **2023**





# UN Transparency Protocol - Project Motivation



The world faces sustainability challenges

So



Regulators and markets are responding, which can provide meaningful

And



This starts to provide meaningful incentives for sustainable behaviours

But



The same incentives encourage more greenwashing

So



To maintain the value of the incentives we need to combat greenwashing through transparency – at the scale digitization allows

But



There are a lot of challenges to achieving supply chain transparency at scale – hence UNTP

# Protocol over platform – UNTP

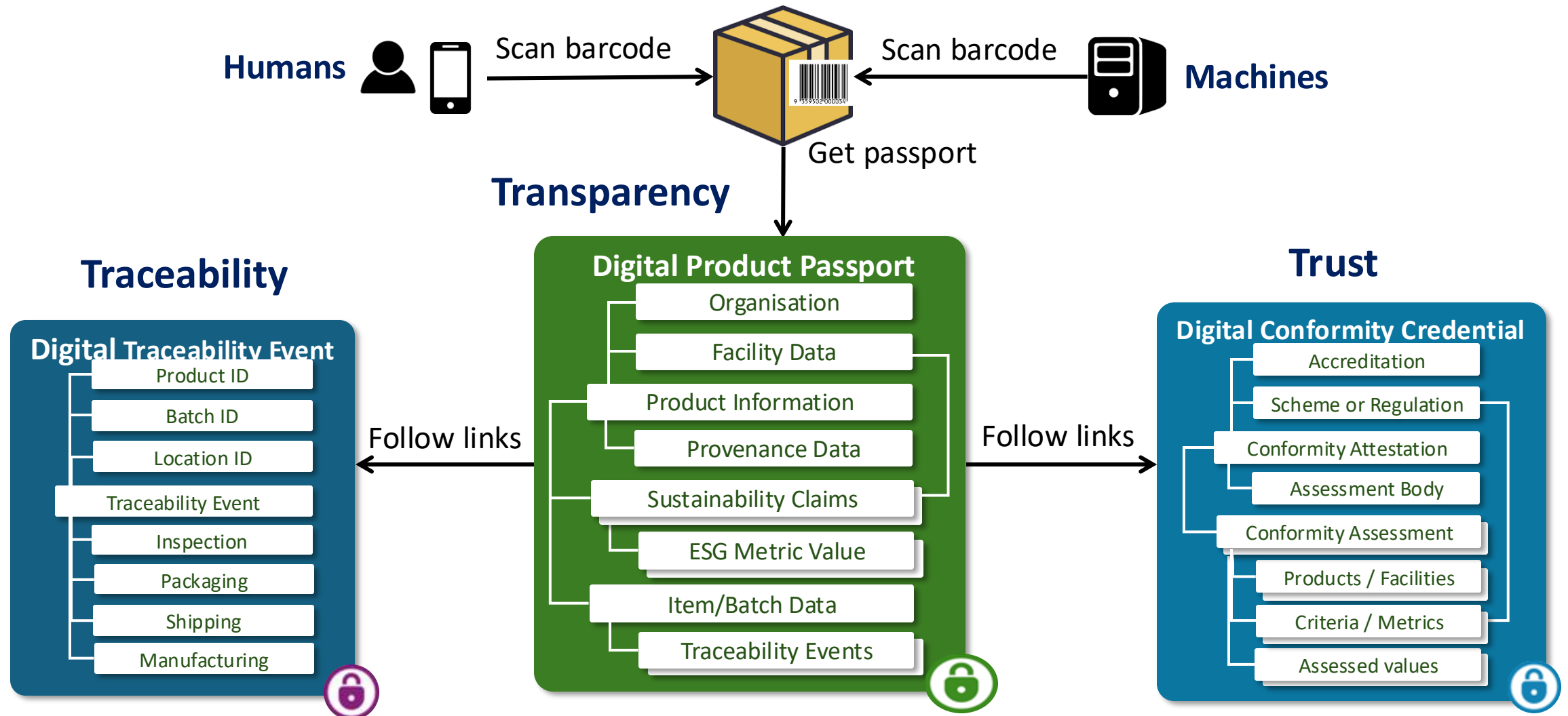
## Challenge

## Solution

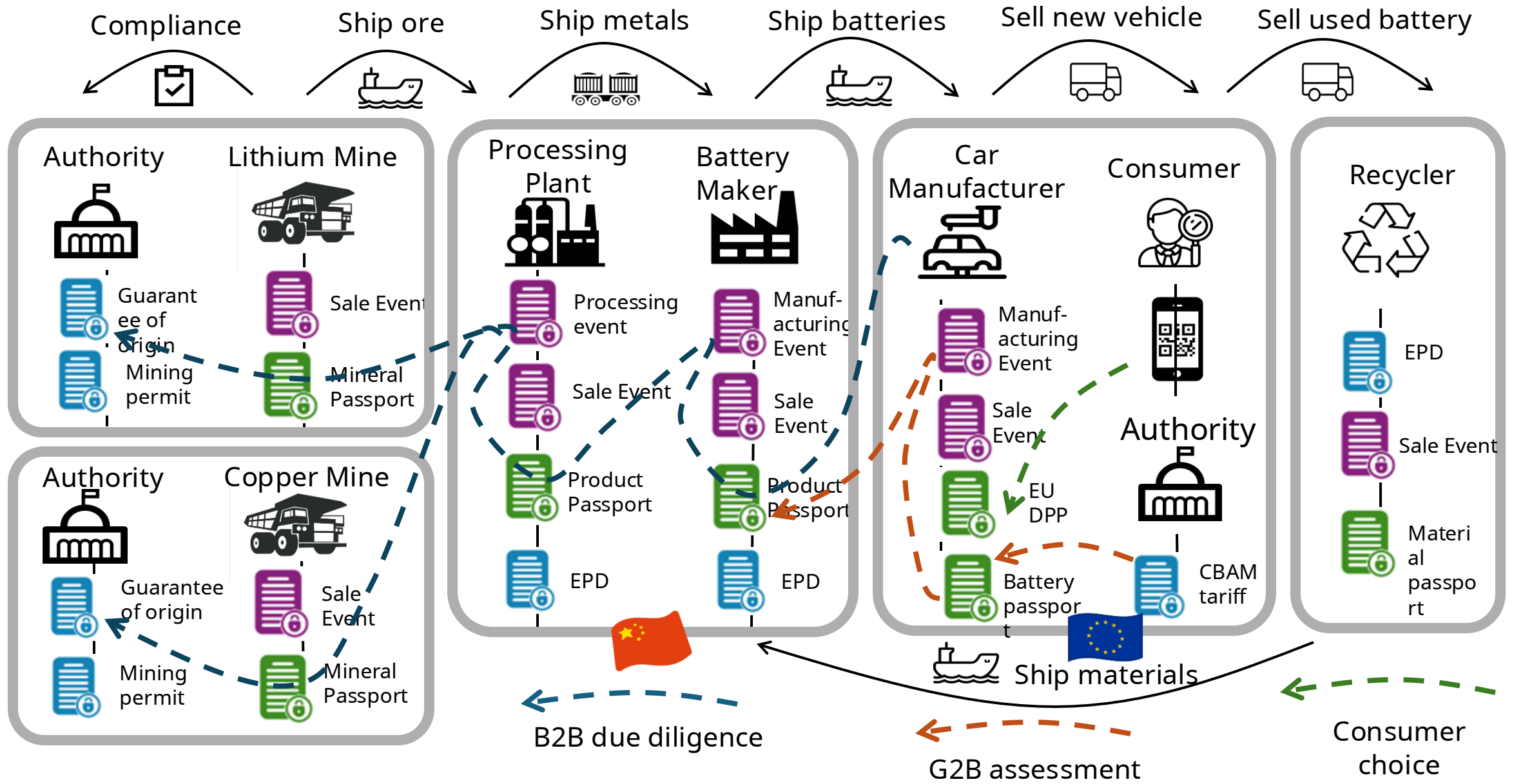
Many traceability platforms	Pick one that conforms to the UNTP
Few business incentives	Product passport as a bundle of differentiated value
Supply chain due-diligence obligations	Verifiable conformity evidence via conformity credentials
Commercial confidentiality	Privacy tools including selective redaction
Unequal digital maturity & adoption	Implementation without system-to-system dependency
Compatibility with existing identifiers	Leverage existing identifiers and link resolvers
A confusion of ESG standards	A scalable semantic mapping architecture
Identity, counterfeiting, mass balance fraud	Trust graphs and trust anchors

# UNTP is a digital standard, not a technology or platform

If you've got the product ID then you can get the data, readable by humans and machines



# UNTP/CRM – entire value chain perspective



# CRM Project - Testing to Date

*Digital versions of everyday credentials like education certificates, permits, licenses & registrations.  
Do not require a blockchain for data exchange*



BC Mining  
Operator

*Publishes*



Digital Product Passport



BRITISH  
COLUMBIA

*Publishes*



Proof of BC Mine Permit Status  
Digital Credential



The Mining Association of Canada  
ADVOCACY STEWARDSHIP COLLABORATION

*Publishes*



Towards Sustainable Mining  
Digital Credential



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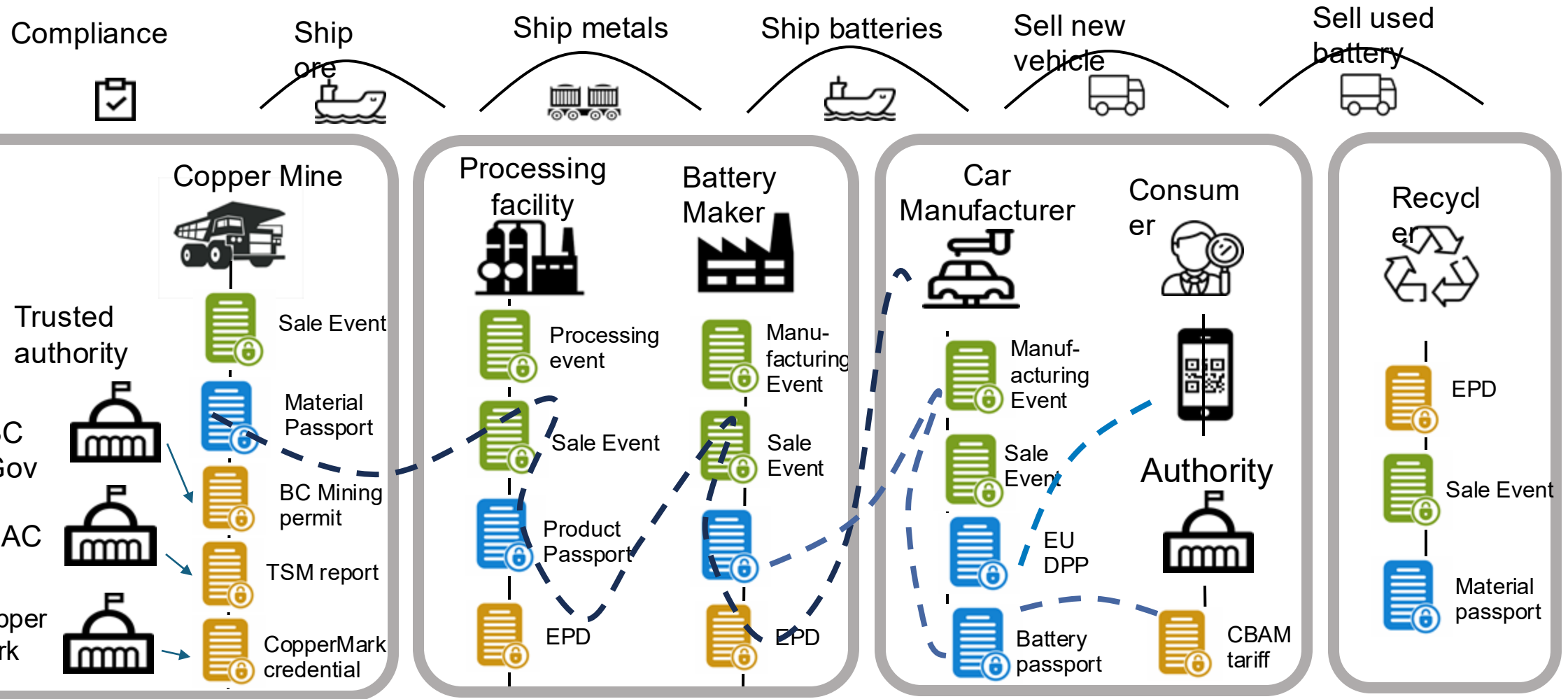
*Publishes*



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The Copper Mark  
Digital Credential

# BC copper supply chain example of UNTP



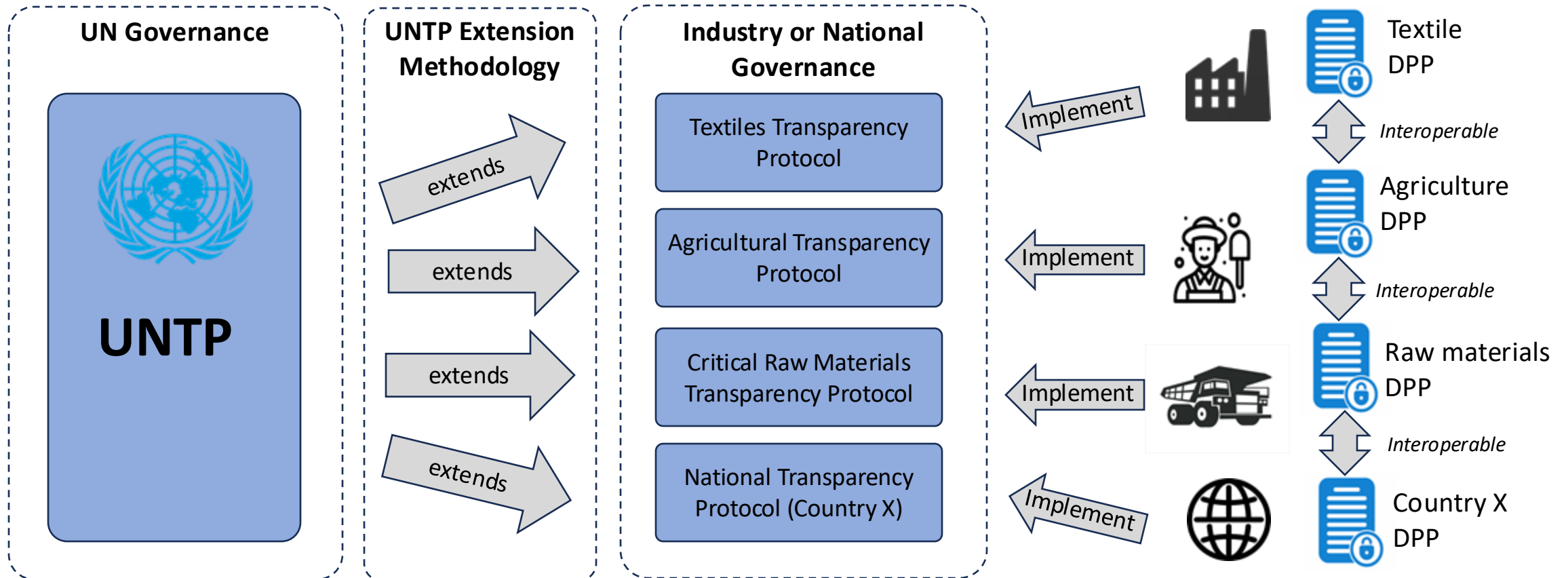
Digital credentials can be linked together so that value chain transparency is like pulling on the end of a string of linked data.





# 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.



# Commitments to Extend UNTP

## Electronics and Autoparts



**Responsible Business Alliance**  
Advancing Sustainability Globally

RBA's members and initiatives include major global auto and electronics providers with combined annual revenues of more than \$8 trillion, and products manufactured in more than 120 countries.

## Global Built Environment



The Universal Data Protocol (UDP) is an extension of the UNTP and is seeking to leverage its decentralised framework to provide transparent, trustworthy, and verifiable data in the global built environment.

## Australian Agriculture



Operating as a governance framework, this adaptation of the UNTP facilitates the interaction between multiple certifiers, farm systems, and enterprise systems.

## Critical Raw Materials

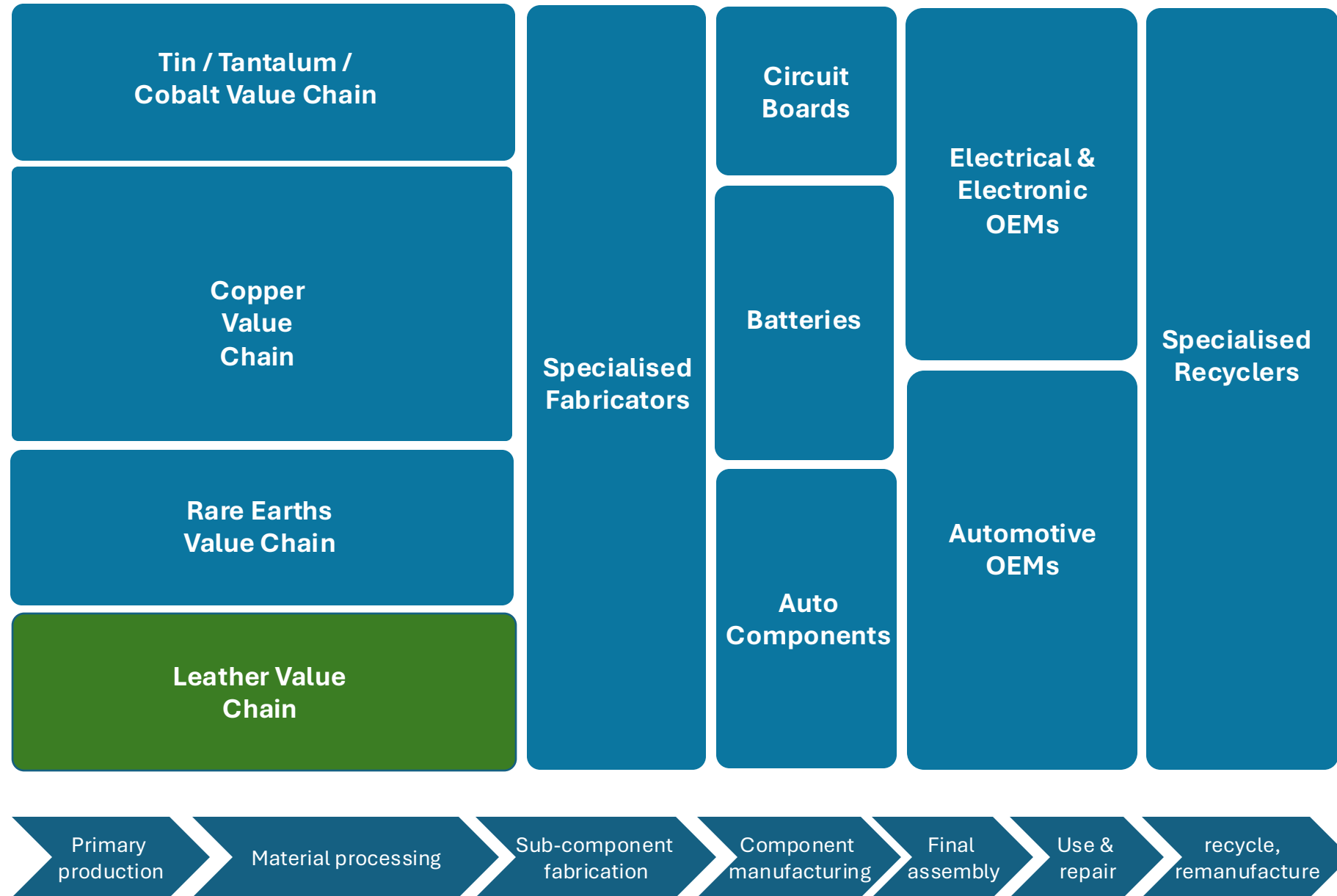
## Textiles



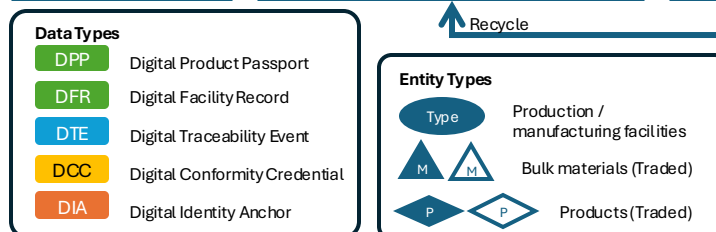
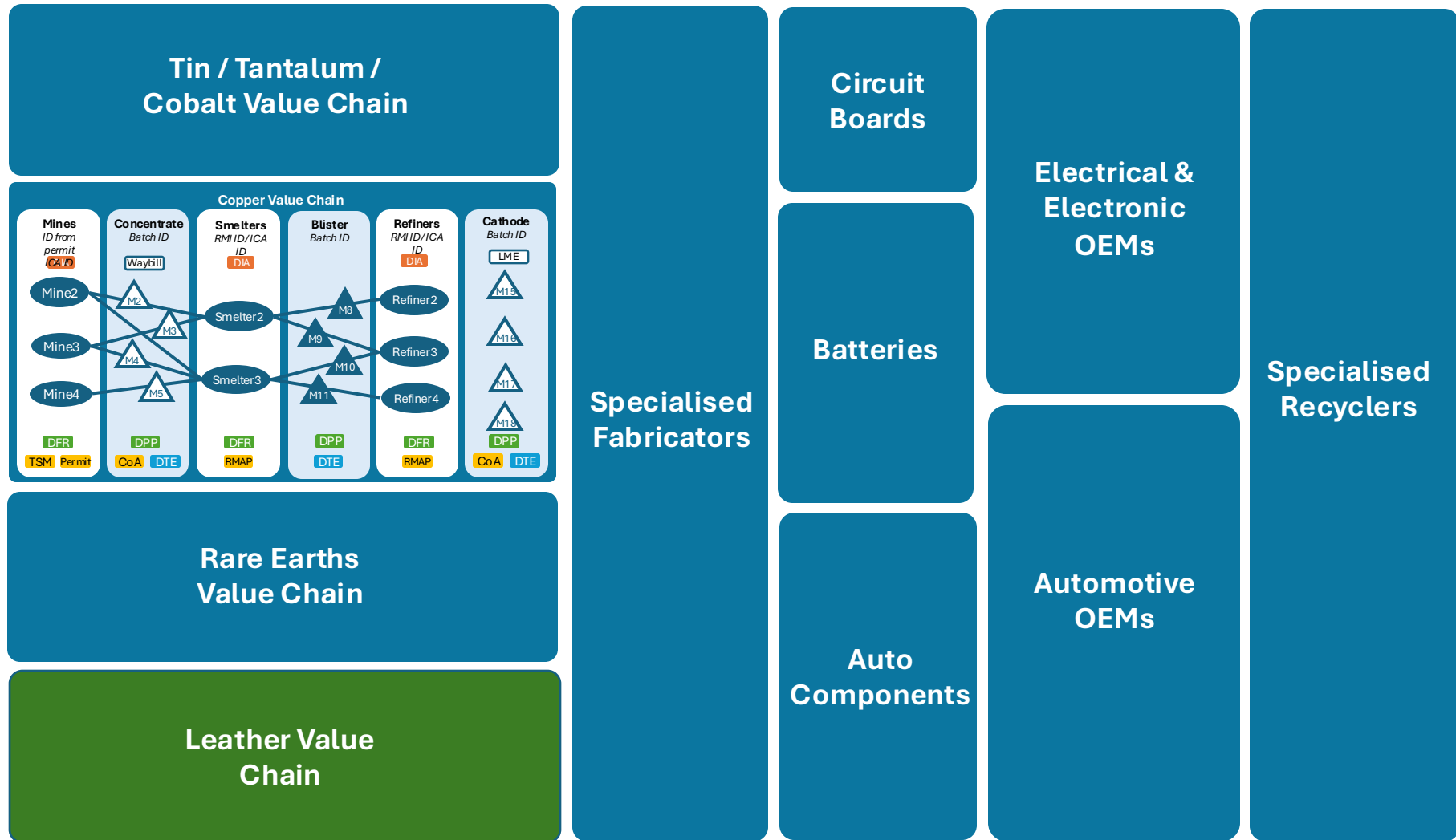
**UNECE**

In line with the United Nations (UN) Sustainable Development Goals (SDGs), and building on the success of the UNECE Textile & Leather traceability project, these extensions seek to empower industry with practical cost tools for digital data exchange.

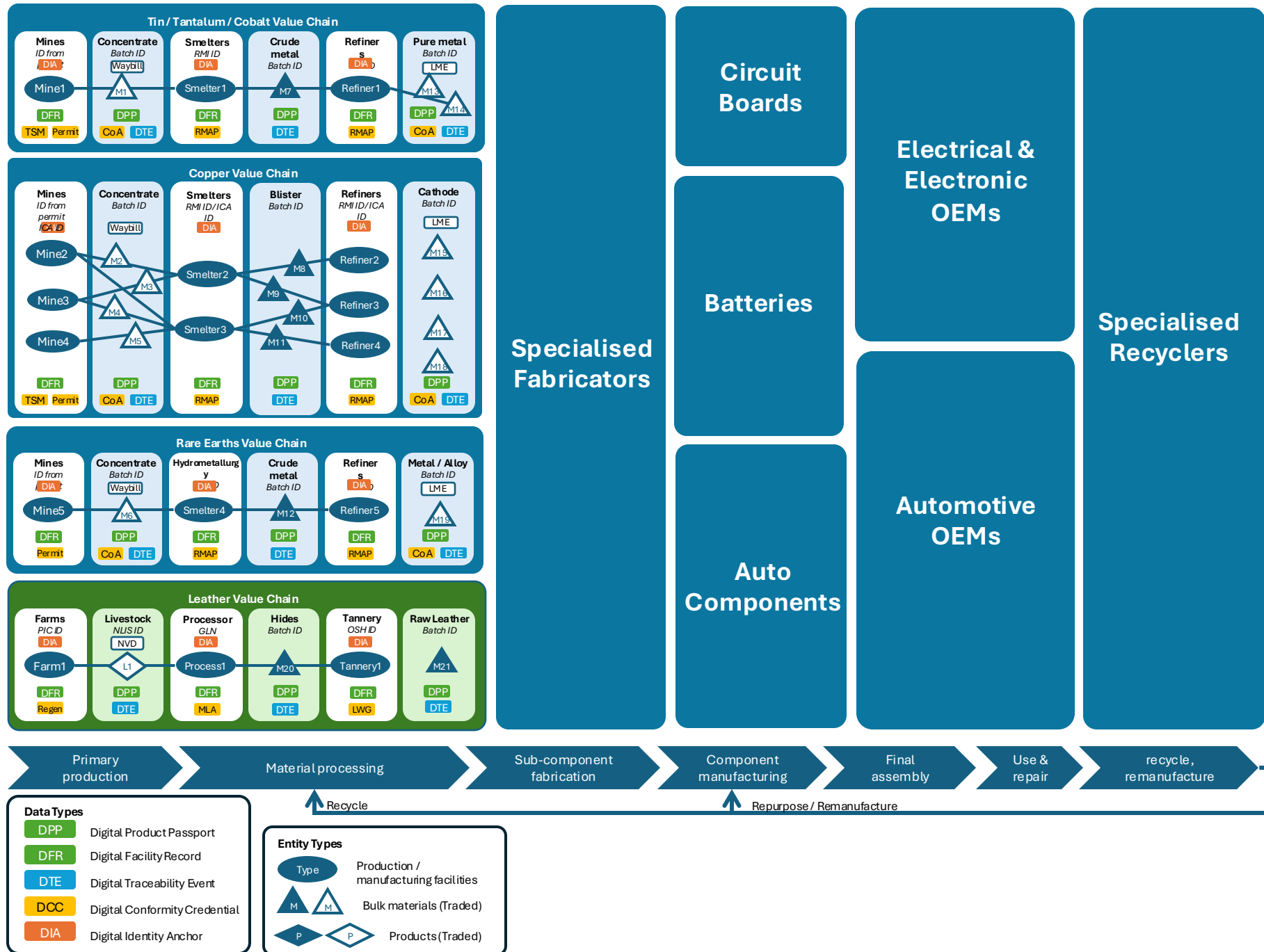
A Value chain map for electronics and automotive sectors



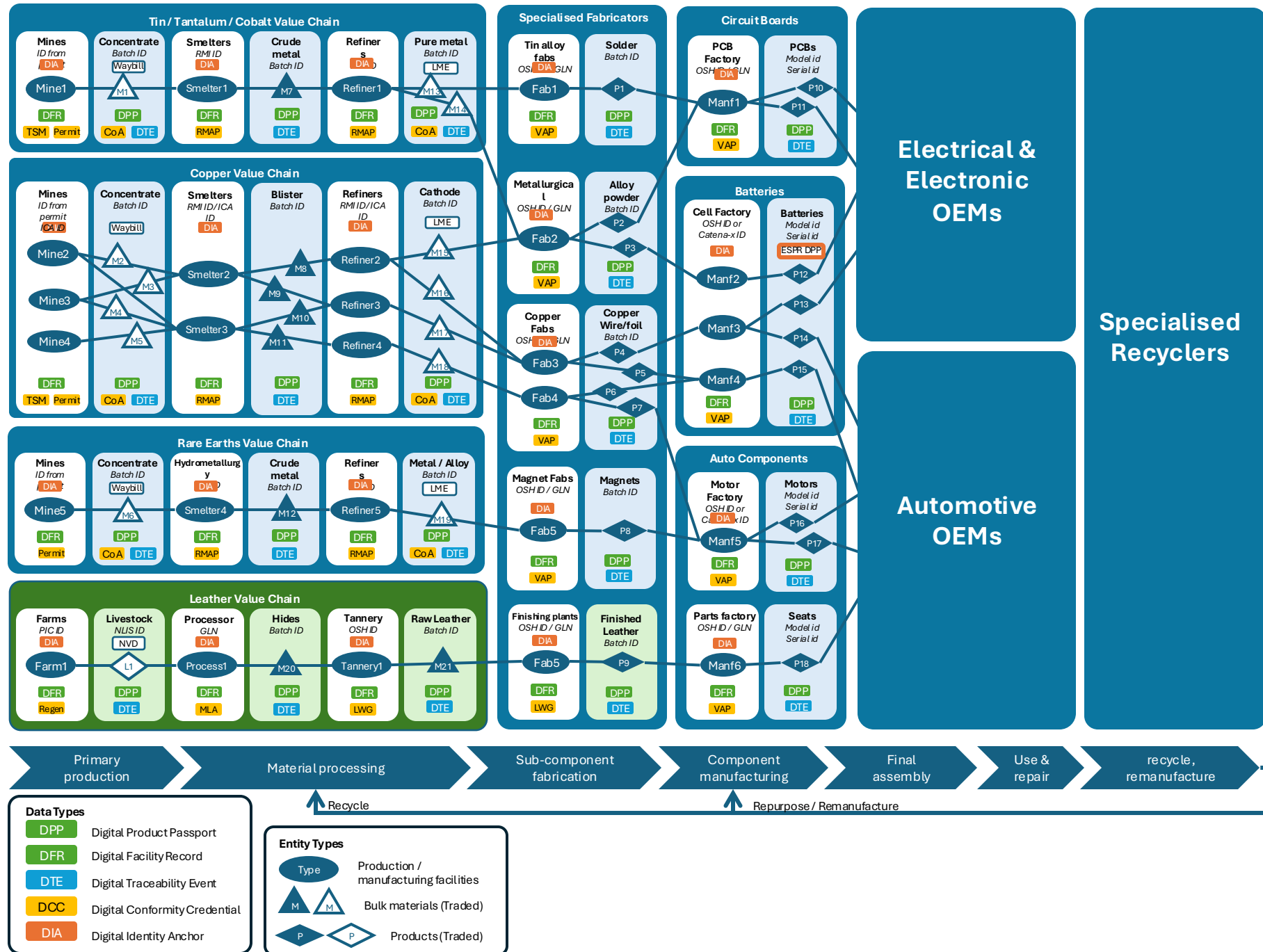
A Value chain map for electronics and automotive sectors



A Value chain map for electronics and automotive sectors

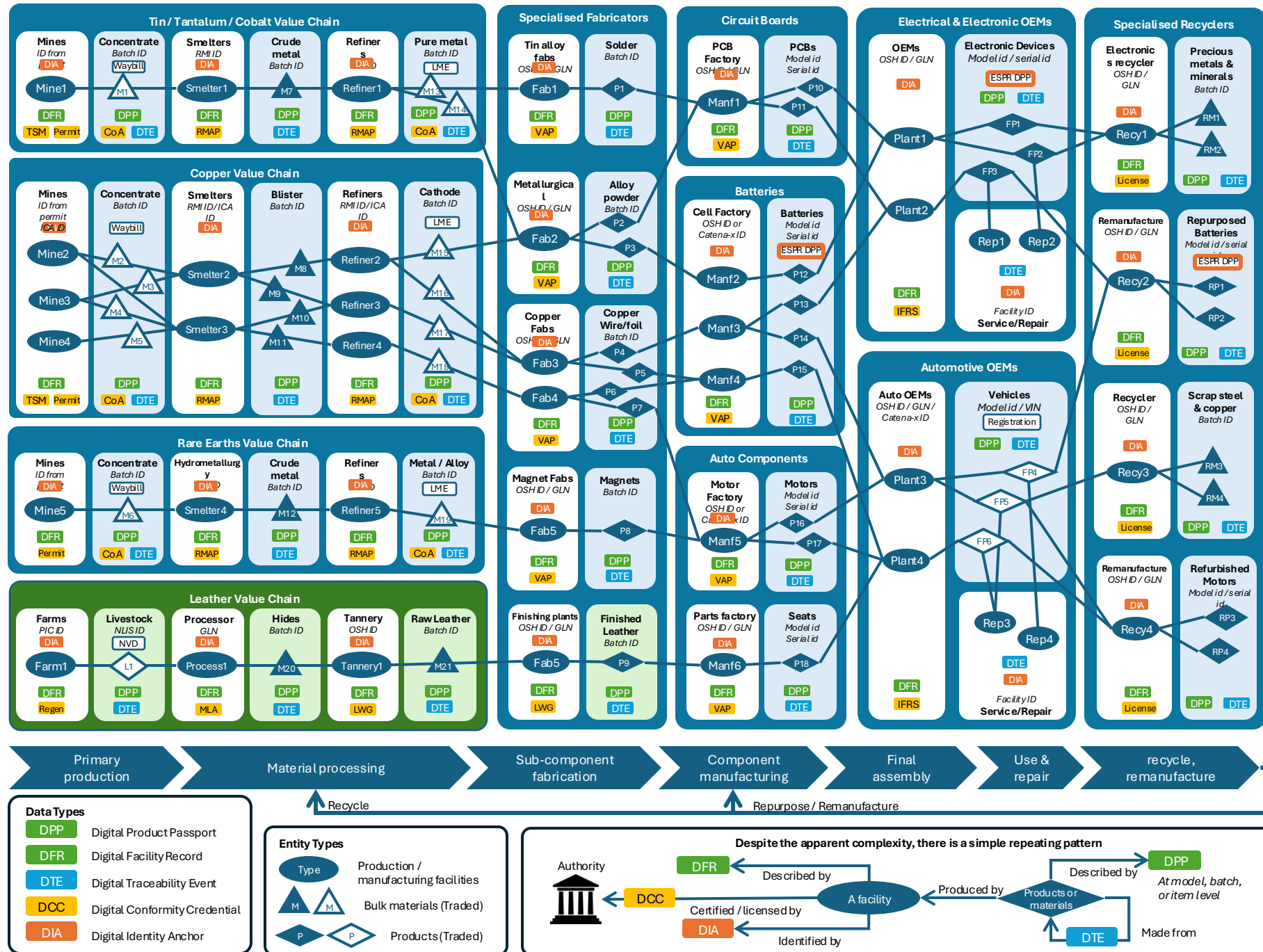


A Value chain map for electronics and automotive sectors

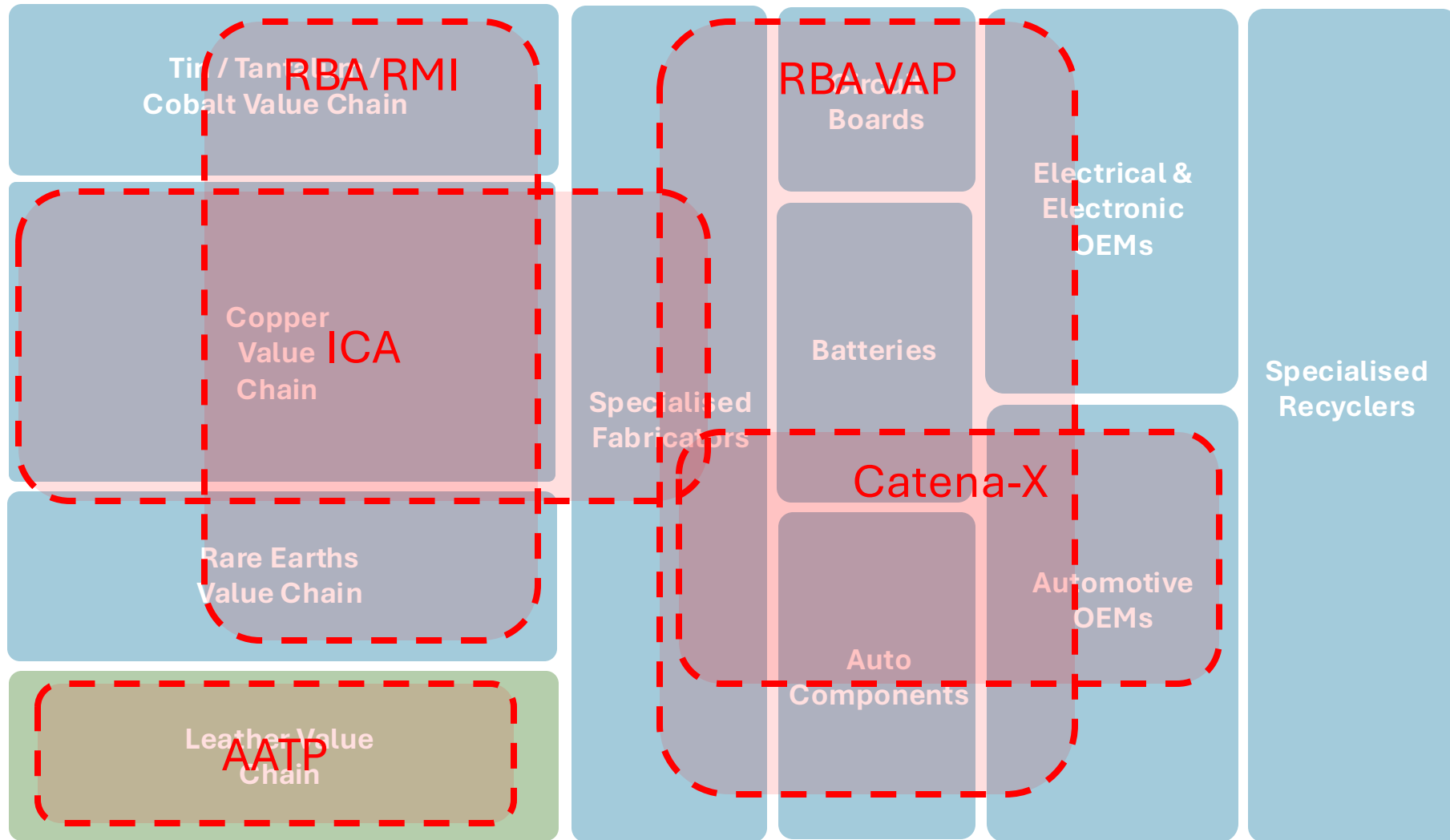




# A Value chain map for electronics and automotive sectors



A Value chain map for electronics and automotive sectors



# What's next?

- Continue to refine draft UN Transparency Protocol and create a Copper Extension, in partnership with the International Copper Association
- Advance UNECE copper supply chain pilots with mining operators, smelters, and downstream manufacturers together with Responsible Business Alliance, Global Battery Alliance
- Work with international partners to achieve interoperability and mutual recognition of standards, such as Catena-X and ISO/IEC



# Timeline for UNECE Recommendation 49, UNTP, Extensions & Pilots

July 2023

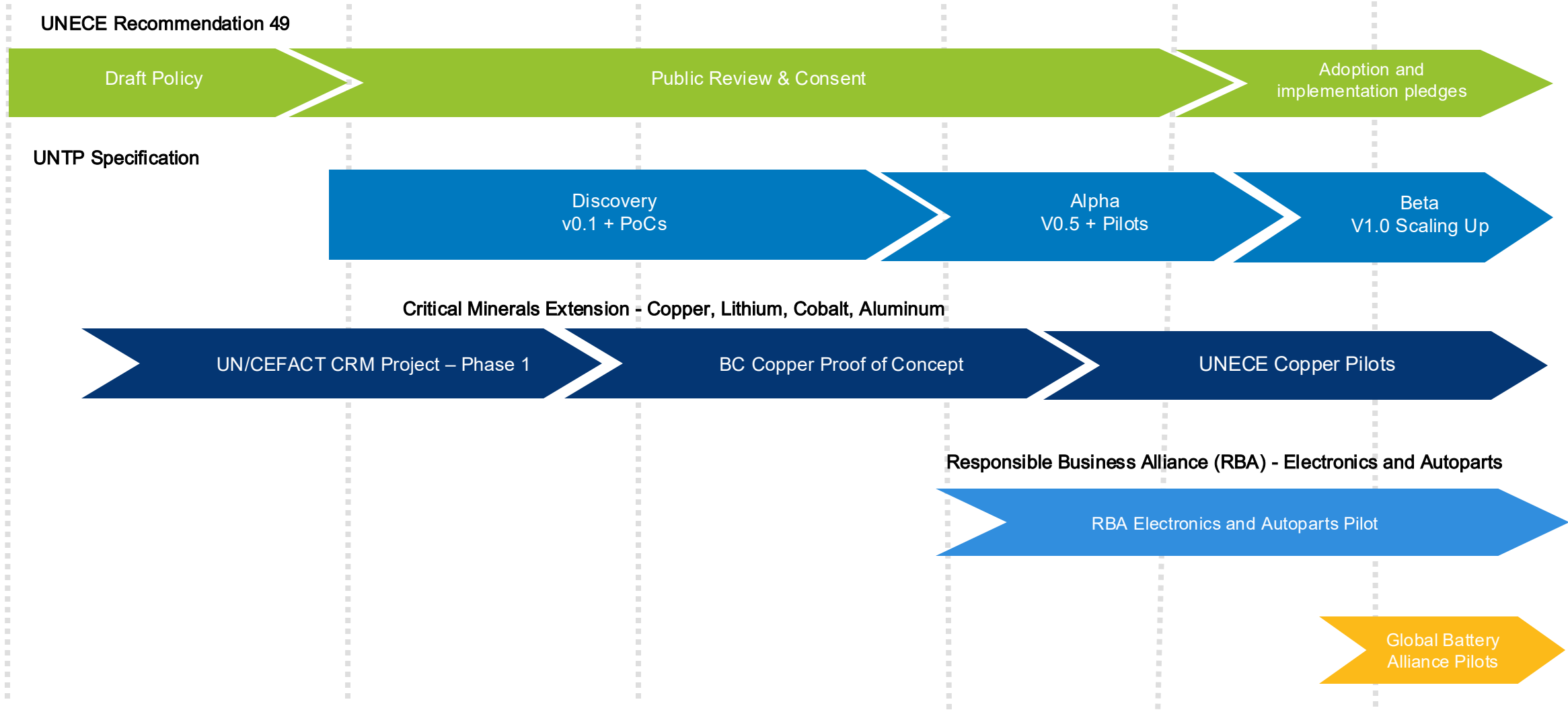
July 2024

Sep 2024

Jan 2025

July 2025

Nov 2025





## Nancy Norris

[Nancy.Norris@gov.bc.ca](mailto:Nancy.Norris@gov.bc.ca)



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UN / CEFAC

