Digital Trust Decarbonization Platform
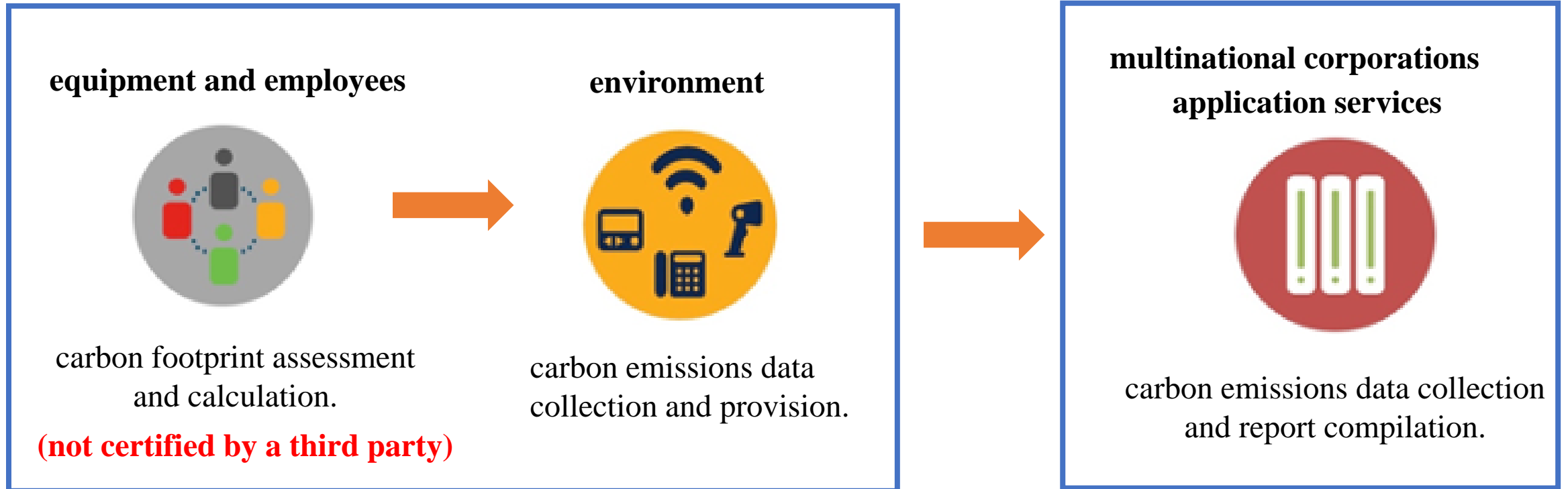
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Pending issues regarding ESG data collection

＊data trust in supply chain

equipment and employees

environment

multinational corporations application services

carbon footprint assessment and calculation.

(not certified by a third party)

carbon emissions data collection and provision.

carbon emissions data collection and report compilation.

Pending issues regarding ESG data collection

Lack of...

digital capabilities

common standards

third-party certified digital tools
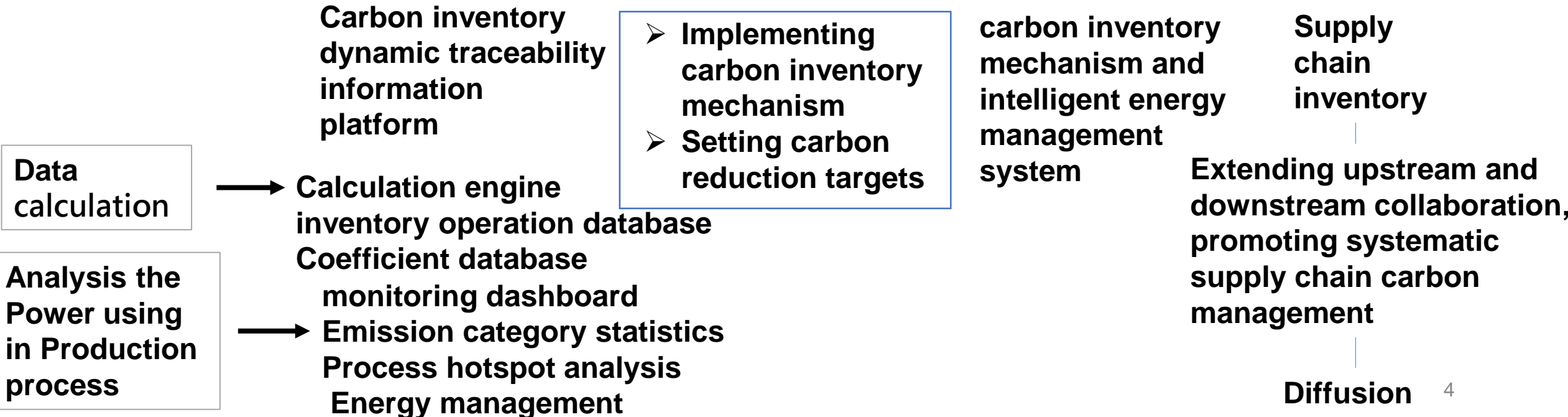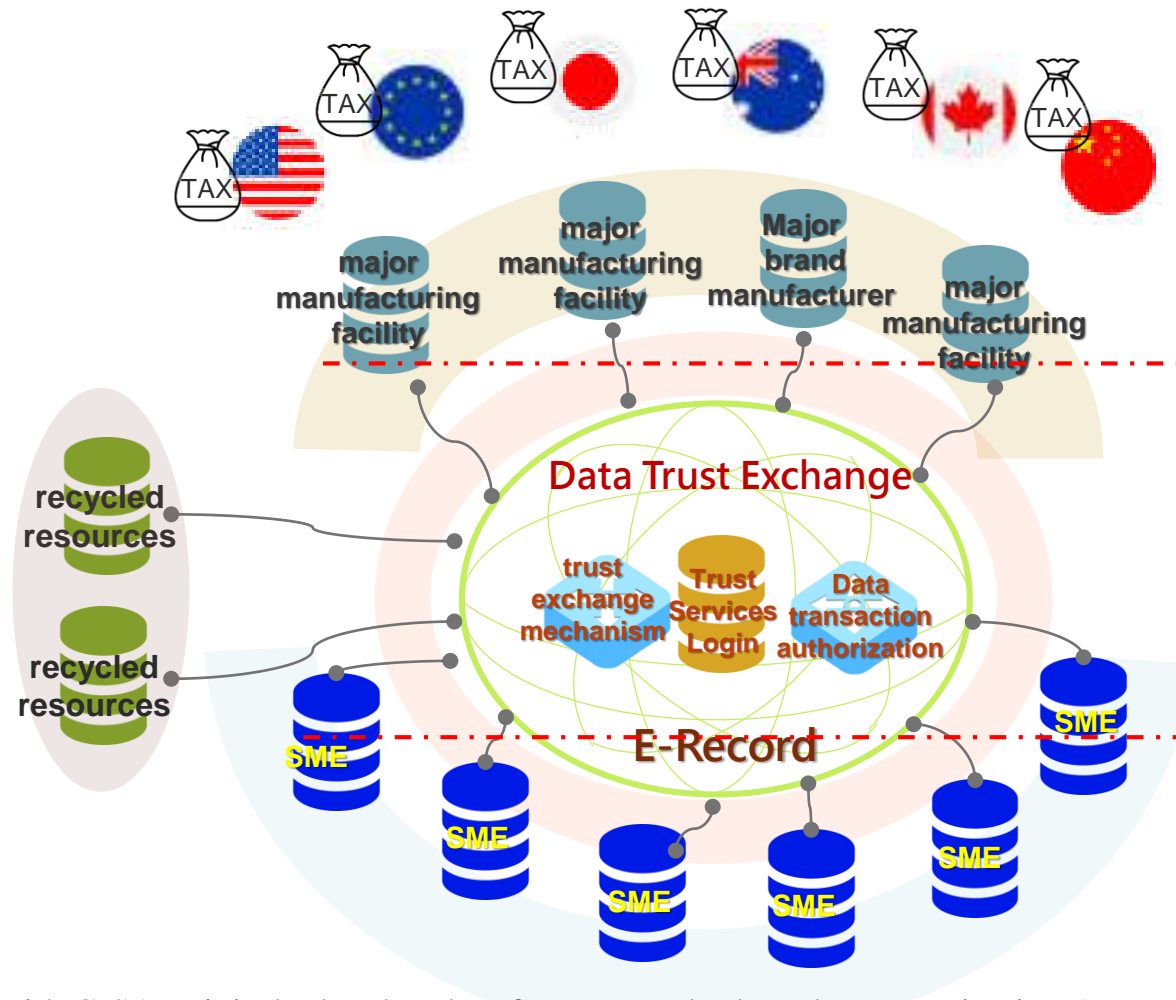
trusted data exchange environment

Low Carbon Smart Manufacturing －PCB、EMS、Semiconductor and Panel

Collaborating with the industrial Association to establish a consensus on carbon inventory calculation mechanism. This involves synchronizing the carbon inventory within the manufacturing facility and developing a framework for exchanging carbon footprint data across the supply chain. By integrating IT service providers and on-site operators, we will create a digital tool for carbon inventory, serving as the first compliant and industry-specific intelligent carbon data collection and calculation platform

calculation mechanism ➡ Digital tool ➡ Collaboration ➡ Demonstration field ➡ Diffusion

Carbon inventory dynamic traceability information platform

Data calculation →

Analysis the Power using in Production process →

Calculation engine inventory operation database
Coefficient database
  monitoring dashboard
Emission category statistics
Process hotspot analysis
  Energy management

> **Implementing carbon inventory mechanism**
> **Setting carbon reduction targets**

carbon inventory mechanism and intelligent energy management system

Supply chain inventory

Extending upstream and downstream collaboration, promoting systematic supply chain carbon management

Diffusion

Constructing a Digital Trust Carbon Reduction Cloud.

Through AFCAT "Sustainable Development and Circular Economy Working Group":
- Promote proposals on carbon inventory and carbon taxation
- Participate in international issues

Integrate existing resources by the Institute for Information Industry (III):
- Build a data trust exchange platform for sharing data
- Provide trusted and traceable carbon emission data.

Implement a carbon content calculation mechanism for corporate products or services as a quantitative basis for carbon emissions.

● Collaborate with CISA to jointly develop data format standards and communication APIs.
● Collaborate with industry associations to establish industry-specific carbon emission coefficient calculation standards.

Estainium Network

- Established for exchange of climate-relevant data.
- WEF & BCG in 2022 published "Sharing Data to Achieve Decarbonation of Value Chains"
- Collaboration between large companies to develop a blueprint for carbon footprint data exchange:
  - ◆ Arçelik
  - ◆ BCG
  - ◆ Dow Chemical
  - ◆ EPFL
  - ◆ GreenPlat
  - ◆ Rockwell Automation
  - ◆ SAP
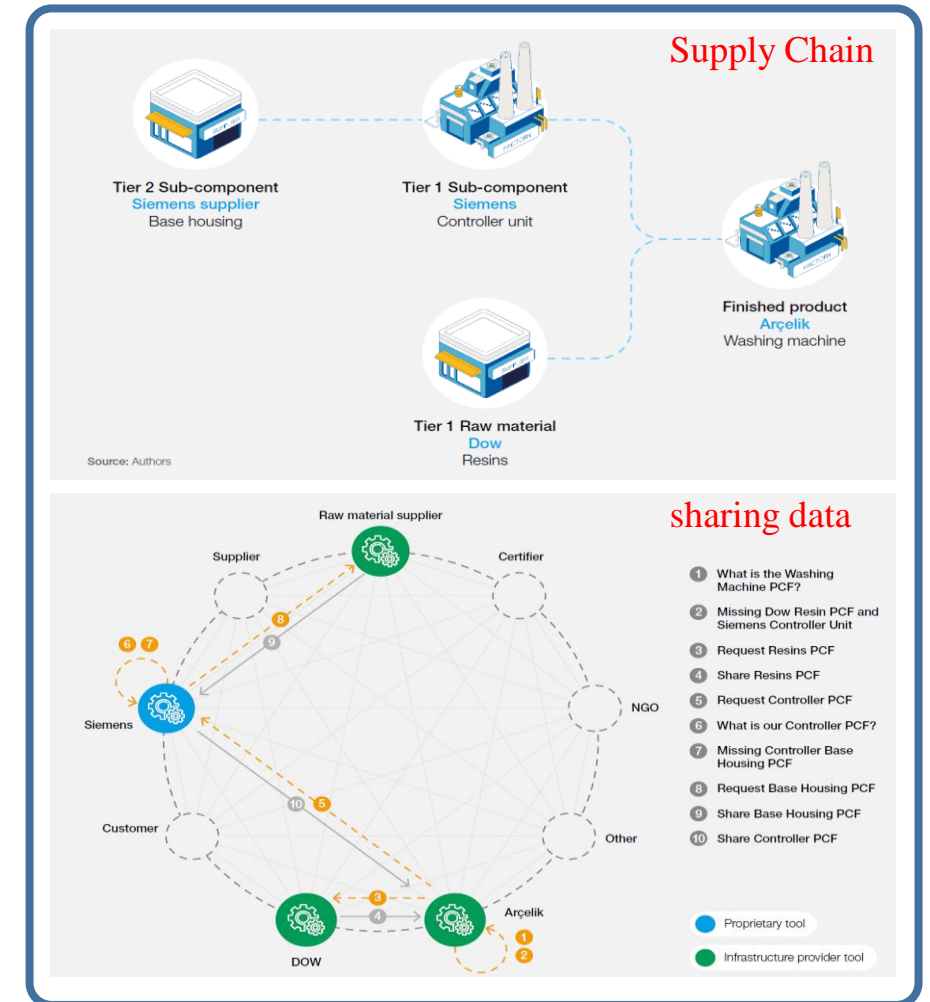
Catena-X

- Purpose of establishment:
  - Enhance transparency, efficiency, and reliability of supply chains.
  - Promote cross-industry digital value chain network.
- Provide data sharing platform.
- Ecosystem for unifying data sharing for cross-industry collaboration, innovation, and sustainable development.
- Complimented by WBCSD PACT Data Exchange Guidelines
  - Data sharing for sustainable value chains and economic development.
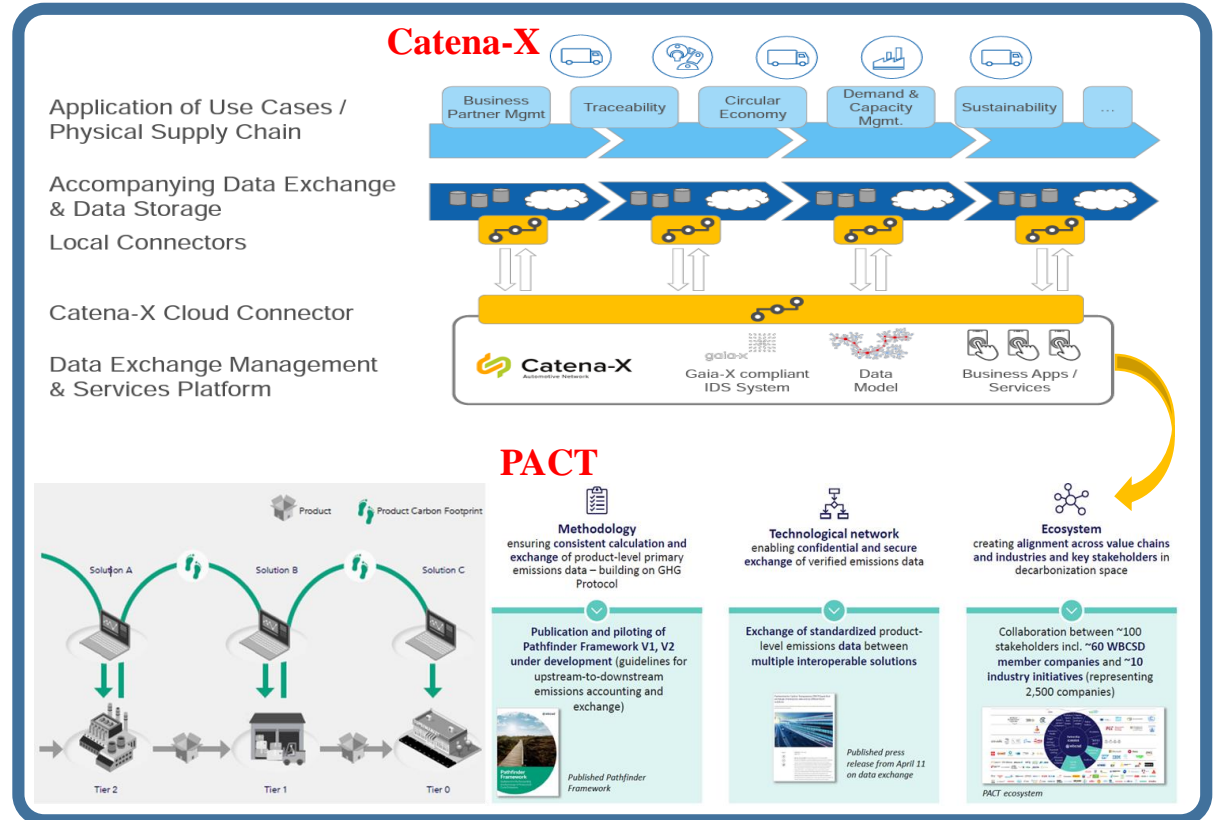
Existing methods and standards for the calculation

- Product Environmental Footprint method (PEF) and Product Environmental Footprint Category Rules (PEFCR) by the European Commission

- Product Category Rules (PCRs) by Environmental Product Declaration (the International EPD System)

- GHG Protocol Product Life Cycle Accounting and Reporting standard and GHG Protocol Corporate Value Chain (Scope 3) standard by WBCSD and World Resources Institute under the GHG Protocol

- ISO standards (14044/40, 14067, 14025).

1

Product-specific or sector-specific rules
(PEFCRs or PCRs)

Most prescriptive, **product-specific guidelines**

2

GHG Protocol Product standard[1]

Most-used guidelines in practice, but not sufficiently specific (e.g., in terms of allocation methods)

3

ISO standard (14044)

Foundation for "more advanced" product-specific guidelines and cross-sectoral standards, but not sufficiently specific (e.g., in terms of system boundaries)

1 Requirements and guidelines for the calculation of PCFs can also be found in ISO standard 14067.

Digital Trust Decarbonization Platform

- Purpose:
  - ◆ Provide a trustworthy, secure, and transparent data ecosystem that enables the exchange of data among different field and businesses.
  - ◆ Enhance the privacy of data traceability, quality management, and compliance.
  - ◆ Ensure data consistency, interoperability, and data security.

- Goal:
  - ◆ Construct a platform for blockchain and data exchange.
  - ◆ Streamline supply chain data exchange.
  - ◆ Standardize data exchange for seamless interoperability.
  - ◆ Secure data access and authorization control.