

The Ouranos Ecosystem Trust Study Group Report Summary

March 28th, 2025

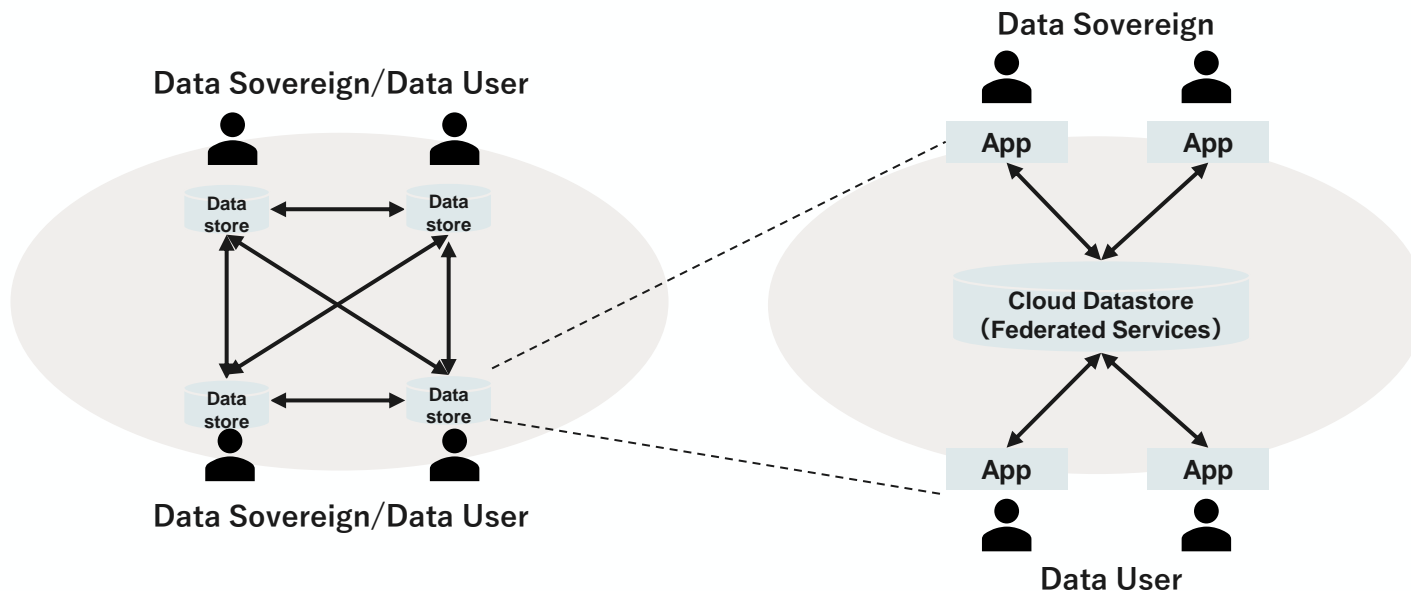
Ministry of Economy, Trade, and Industry (METI)

Ouranos Ecosystem Dataspaces promote hybrid service ecosystem

with a variety of service interfaces while ensuring data sovereignty.

Principle: Distributed Service Model

Assuming cases where dataspace participants can independently develop and operate their own systems.

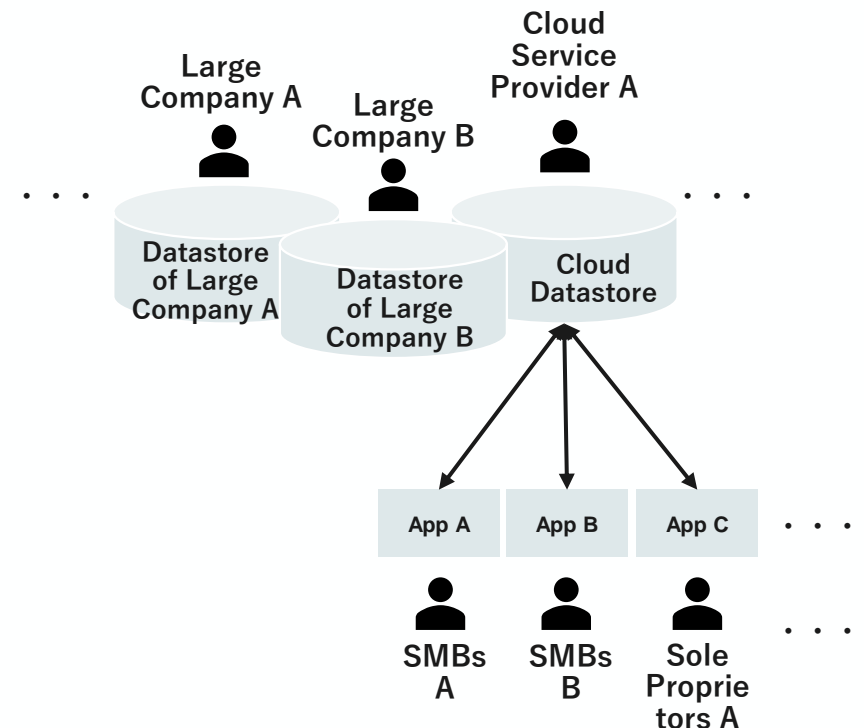


Extension: Federated Service Model

Addressing cases where SMBs, sole proprietors, and other businesses that find it challenging to independently develop and operate their own systems within the dataspace.

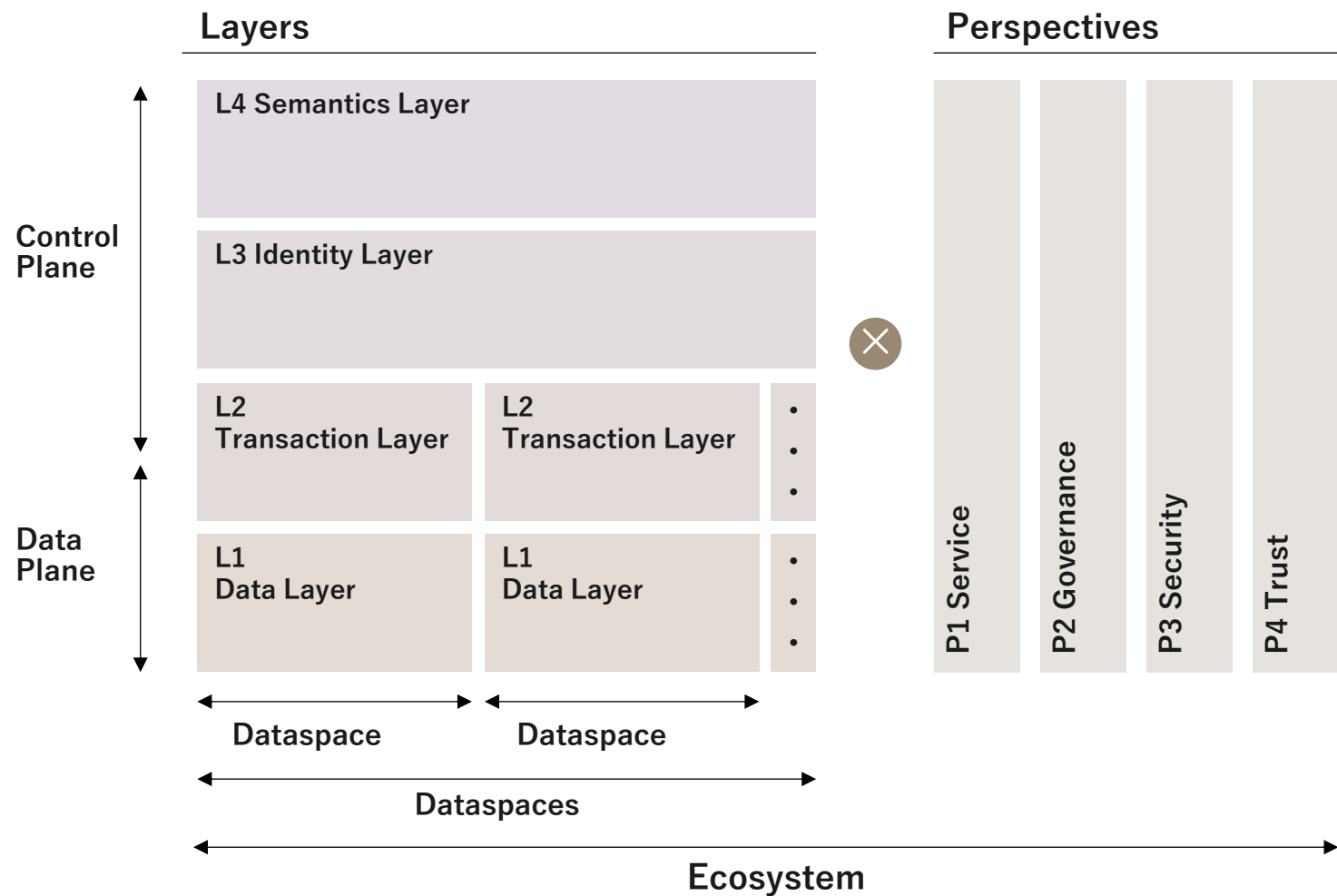


Hybrid Service Ecosystem



Reference Architecture Model consists of four layers and four perspectives to reflect the 7 Principles

focusing on the service life cycle to expedite the social implementation of dataspace within the industrial sector.



Framework for Analyzing Trust in the study group

- To analyze trust across various industry sectors, it is essential to organize the data for sharing and the related regulations, while clarifying the uncertainties (risks) that trust will address.
- To gather input from study group members, we used four questions to organize risk analysis and measures according to the Data Management Framework (DMF).

Q.1 Data to be Shared

DMF STEP1

- ✓ Types of data to be shared
- ✓ Lifecycle of data from generation/acquisition to disposal
- etc...

Q.3 Risks and Uncertainties

DMF STEP3 · 4

- ✓ Properties of each data and the risks anticipated for those properties
- ✓ Uncertain elements that create risks
- etc...

Q.2 Domains of Data Sharing

DMF STEP2

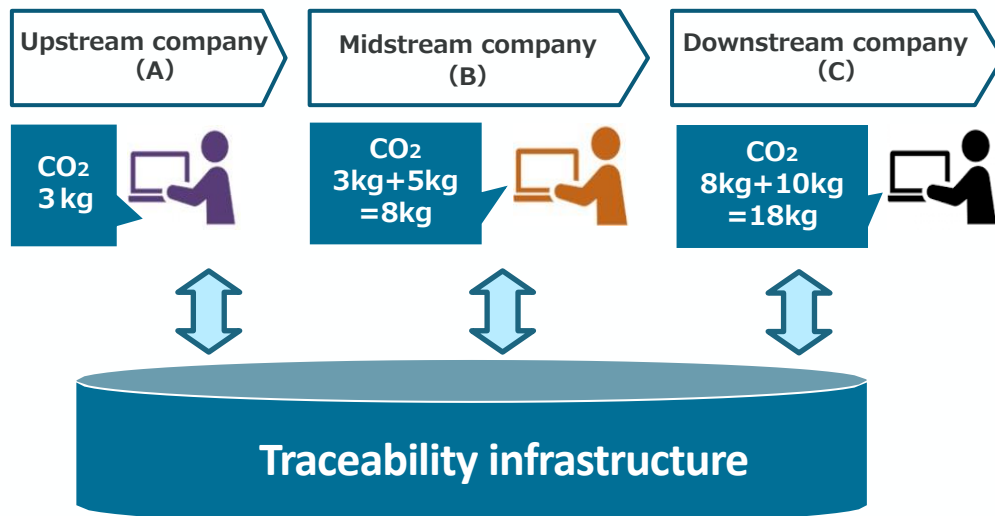
- ✓ Types and number of businesses included in domains of data sharing
- ✓ Rules, regulations, and agreements between businesses and regarding the data
- etc...

Q.4 Countermeasures for Risks

- ✓ Items and targets requiring trustworthiness
- ✓ Assurance level that should be prepared for each item or target
- ✓ Who should be the trust anchors?
- etc...

Case study 1: Automotive and battery CFP/DD

- Automotive and Storage Battery Traceability Center (ABtC) provides the supply chain data sharing platform for automotive and storage battery industries. It is confirmed that the required level of trust expected in the "platform" is ensured.



Q.1 ✓ CFP information and DD information in the supply chain of storage batteries.

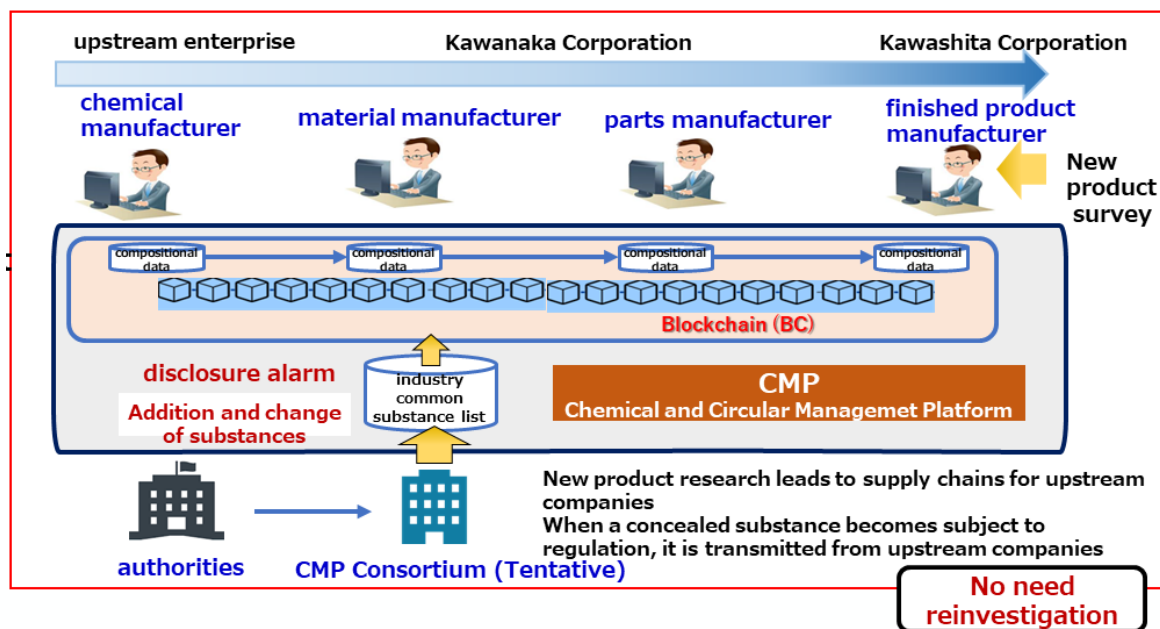
Q.2 ✓ The sharing of battery data along the supply chain is particularly required by the EU Battery Regulation.

Q.3 ✓ Data tampering and impersonation
✓ Data leakage and privacy violations
✓ Uncertainty of international data sharing

Q.4 ✓ Enhancing confidentiality protection and access control
✓ Ensuring data transparency
✓ Ensuring interoperability

Case study 2: Chemical Substances Information

- Chemical and Circular Management Platform Task Force promotes the data sharing of chemical substances information. Challenges are sharing data accuracy and managing around 10,000 participating companies.



Q.1

- ✓ Chemical substances contained in products
- ✓ Reused components and recycled material information

Q.2

- ✓ Supply chain involvement from upstream to downstream, with >10,000 domestic and overseas automotive and electronics companies expected to participate.
- ✓ Expansion with overseas systems and markets.

Q.3

- ✓ Trustworthiness of chemical substances, recycled materials, and reused parts information.
- ✓ Data reliability as it pertains to regulatory compliance.
- ✓ Handling of data provided by unspecified companies (future challenge).

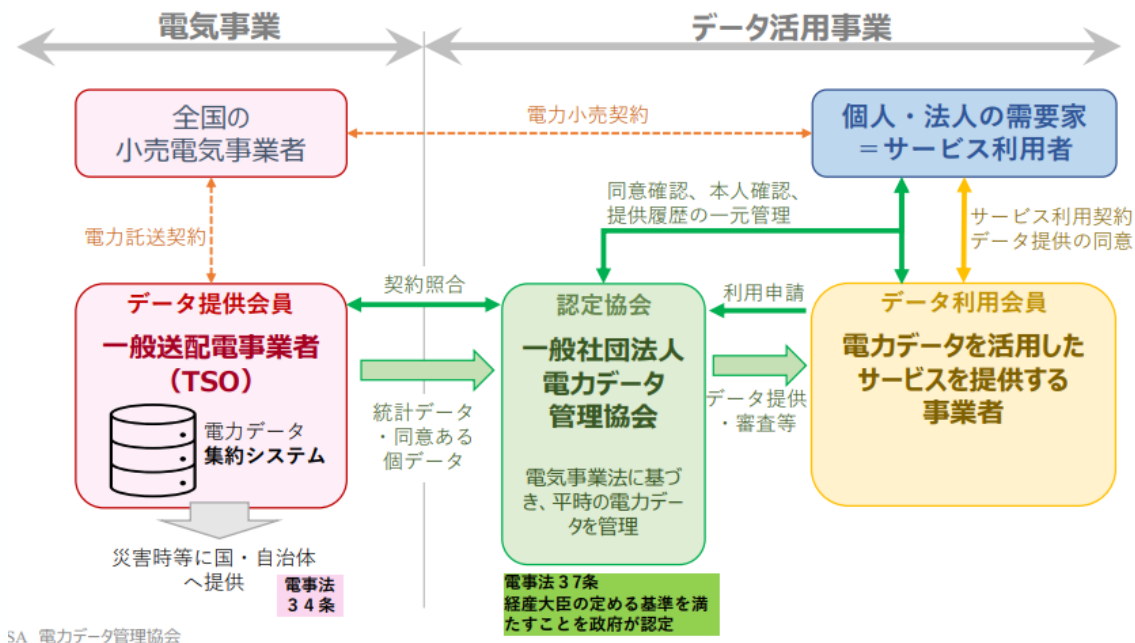
Q.4

- ✓ Compliance with contracts and IEC/ISO 82474, IEC 63000.
- ✓ System expansion to overseas markets (particularly ASEAN).

(*) In this study group, similar analyses were also conducted for 5 domestic use cases

Case study 3: Electricity Usage Data

- Secured Meter Data Sharing Association (SMDSA) provides a delivering service of electricity usage data.
- The challenge identified is the need for efficient linking and consent acquisition for service users (including businesses) to expand data usage.



Q.1

- ✓ **Electricity** usage and sales performance data
- ✓ Generated **every 30 minutes from 80 million smart meters**

Q.2

- ✓ SMDSA (accredited by Japanese Government) provides statistical and consented data to data utilizing members.

Q.3

- ✓ Accuracy of data
- ✓ **Customer record's inconsistencies and gaps** between data providers and utilizers. This prevents proper customer linking.
- ✓ **Security risks** such as external attacks.

Q.4

- ✓ Data providing based on agreement by usage purpose, location and data utilizing members
- ✓ Verify the authenticity of applicant documents by human hand
- ✓ API integration between secured systems only
- ✓ SMDSA retains the revoke of data acquisition token

(*) In this study group, similar analyses were also conducted for 5 domestic use cases

Concept of Approaching Trust in Ouranos Ecosystem

- This will summarize the results of our analytical approach to ensuring trust in Ouranos Ecosystem.

Analysis of the "Domains" of Data Sharing

There is no general framework. It is important to conduct an analysis of the "domain" and clarify the risks with the following points:

- ✓ **Rules, laws and regulations governing the domain**
The domain is shaped by any rules?
Who is the admitting the rules? Public or Private?
- ✓ **Consensus mechanisms or authorities among stakeholders in the domain**
Centralized platform exists or distributed?
The existence of contracts, agreements and standards among participants?
- ✓ **Scope of the domain**
The domain is standalone or connected with other?
International sharing is in scope?
- ✓ **Expansion of the domain**
Estimation the scale of growth and the number of participants

Consideration of Solutions for Risks from the Analysis Results of the "domains"

Exploring solutions to identified risks, including measures for ensuring trustworthiness.

Risks of ...

Data Itself

**Data
Integration
Platforms and
Other Factors**

**Entities
(Authenticity and
Identity
Verification)**

The requirements and levels are clarified through the analysis of the **"domains"**

Manage these risks individually along with the requirements and levels requested by each domain.

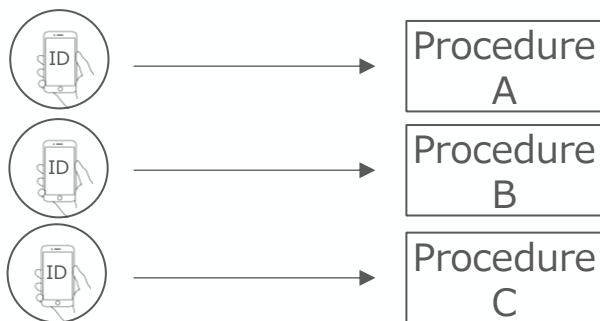
A common risk across all use cases, and it was suggested that **ensuring trust based on public government information could be effective.**

e.g., **"gBizID"** provided by Digital Agency

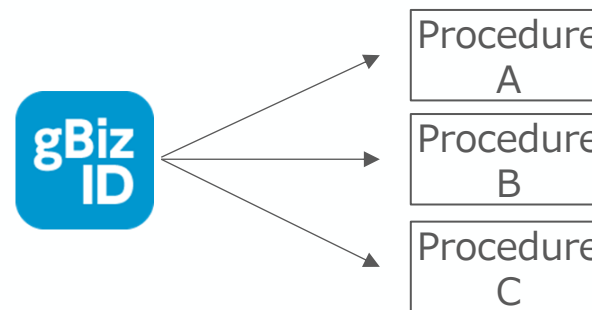
Overview of gBizID

- gBizID is Identity Provider of government system for Business Entity(including corporation and sole proprietorship).
Mainly for representative of corporation.

before gBizID



with gBizID



1

User can use multiple procedures with single ID

Until now, there were disparate identity verification methods such as electronic certificates and copies of certificates of registered matters, but they were standardized with a common login system

2

Once you get an ID, you don't need to get/show ID documents later.

Until now, it was no longer necessary to request documents confirming the existence of the existence (certificate of registered matters, etc.) for each procedure.

3

gBizID Prime provides higher Assurance Level(IAL2/AAL2)

In addition to ID/Password, we have created an environment where you can log in securely through device authentication using apps and SMS on smartphones and feature phones.

The Ouranos Ecosystem Trust Study Group

- The Digital Economy Division in METI organized a study group to analyze requirements of trustworthiness in Ouranos Ecosystem, considering the balance with needs, in order to promote industrial data sharing driven by use cases.

Background and Purpose

- ✓ The Ministry of Economy, Trade and Industry (METI) is promoting the realization of DFFT (Data Free Flow with Trust) by integrating multiple systems to facilitate the use of data across businesses and industries, thereby advancing data, system, and business sharing. This initiative aims to strengthen the competitiveness of companies and industries through public-private collaboration, and it is being promoted under the name "**Ouranos Ecosystem**".
- ✓ To achieve secured and trusted data sharing and utilization, it is essential to **establish "trust"**, which ensures the trustworthiness of both the data itself and the stakeholders involved. However, the subjects and levels of trustworthiness required differ depending on the use case and the sharing data. It is important to consider **the actual needs of the participant companies in various use cases**.
- ✓ **To promote secured and trusted industrial data sharing and to organize requirements of trustworthiness based on use cases, while considering the balance with needs**, The Ouranos Ecosystem Trust Study Group will be held.

Schedule

1st Meeting (Nov. 20)	<ul style="list-style-type: none">• Overview of Ouranos Ecosystem• Organizing requirements of trustworthiness based on trust and use cases in inter-company data sharing• Use case of industrial data sharing across the automotive and battery industries
2nd Meeting (Dec. 17)	<ul style="list-style-type: none">• Review of the first study group meeting and the status of the IPA-Catena-X PoC• Cross-Industry Data Integration Examples for the Automotive Industry in Europe• Data sharing in other countries and the trust requirements
3rd Meeting (Jan. 31)	<ul style="list-style-type: none">• Introduction of industry data sharing use cases in various sectors and the trust requirements• Explanation of domestic trends (Overview of gBizID)
4th Meeting (Mar. 5)	<ul style="list-style-type: none">• Report (summarization of discussions in this study group)

Members

- ✓ Experts (trust and certification system-related)
- ✓ IT vendors and trust service providers (relevant organizations)
- ✓ Industry stakeholders (automotive, batteries, chemical substance management, electricity, railways, finance, etc.)
- ✓ IPA, Relevant ministries and departments