

Report on the 8th IOFDS Round Table Meeting - September 14 - 16, 2026

Executive Summary

The 8th International Open Forum on Data Society (IOFDS) Round Table was held from September 14 to 16, 2026, at The University of Tokyo as part of Data Spaces Week 2026 Tokyo (DSW2026 Tokyo). The meeting recorded a total of 163 participant attendances over the three days (105 in person and 58 online) from government, industry, academia, standardization communities, and Data Space-related organizations in Japan and other regions. The three-day program consisted of Welcome Messages, Status Reports, a Keynote Address, a Sponsor Presentation, and two thematic Discussion sessions.

The Welcome Messages presented policy, institutional, and industrial perspectives on the development of the data society in the AI era. Major topics included digital identity and Verifiable Credentials, personal and industrial data utilization, AI and data policy for industrial competitiveness, trust architecture for Agentic AI, data and AI governance, digital sovereignty, manufacturing Data Spaces, international interoperability, and the need for federated data infrastructures to support future AI systems.

The Status Reports provided updates on Data Space and AI-related activities across different countries, industries, and organizations. Key topics included the transition of Data Spaces from pilots to scalable and sustainable ecosystems; Manufacturing-X, Catena-X, Semiconductor-X, Open Data Spaces, Gaia-X, and other industrial Data Space initiatives; Asset Administration Shells and digital twins; Data Space governance, trust, certification, and legal frameworks; international standards including ISO/IEC, IEC, IEEE 3800, and EN 18235; data trading and data usage rights; Digital Product Passports; semantic interoperability; AI-ready data and knowledge; synthetic data; and sectoral applications in manufacturing, automotive, semiconductors, materials and textiles, finance, healthcare, smart cities, and weather services.

The Keynote Address, “Smart Data Ecosystems,” focused on the convergence of Data Spaces and Industrial AI. The importance of trust was emphasised, both among the participating organisations and with regard to data, AI models and AI agents. The discussion also covered how shared industrial data, digital twins and AI agents could generate new forms of inter-organisational value creation.

Two thematic discussions were held on the final day. **Theme 1**, “Data Space standardization landscape and collaboration,” examined the relationship among ongoing standardization activities and the possible role of IOFDS in facilitating collaboration across Standards Development Organizations. Participants discussed ISO/IEC Data Space standards, Trusted Data Transactions, IEEE Data Trading Systems standards, trust frameworks, terminology, and mechanisms for sharing information across different standardization communities. The discussion confirmed that IOFDS should not itself become an SDO, but can provide a forum for early information sharing, coordination, and collaboration while avoiding duplication of existing work.

Theme 2, “AI Spaces for international collaboration,” explored the still-emerging concept of AI Spaces and the relationship between Data Spaces and AI agents. Topics included AI-agent identity and trust, delegation of authority, access control and authorization, usage policies, provenance, activity logs, AIBOM, Agent-to-Agent communication, MCP, the role of Data Space connectors, intellectual property, accountability, and governance. Participants agreed that the concept requires further practical exploration and that cross-border experiments, use cases, and the collection of common problem statements could provide a basis for future international collaboration.

The Sponsor Presentation by NTT DATA Group introduced its activities for scaling Data Spaces and its Social Data Platform concept, including secure processing technologies and mechanisms to enable AI agents to access authorized distributed data while maintaining data sovereignty, usage control, and auditability.

The Round Table adopted three decisions by motion.

First, the Round Table approved the IOFDS officers for the period from the end of this meeting until the end of the next in-person meeting. **Masaru DOBASHI was elected Chairperson, Lars NAGEL Vice Chair, and Isamu YAMADA Secretary.**

September 2026, Isamu Yamada, Secretary of IOFDS

Second, regarding the venue for the **next IOFDS in-person meeting**, the Round Table resolved to open a call for nominations through the IOFDS mailing list, with the **nomination period ending at the end of October 2026**. Proposals are to include information on the local host, venue, proposed date, financial plan, and other relevant arrangements.

Third, regarding international standardization activities, the Round Table approved as an IOFDS consensus that **IOFDS recommends that members share information with the IOFDS and request collaboration on international standardization activities**, provided that such activities **do not violate the rules of the respective international standardization activities** in which the members participate.

(日本語訳) エグゼクティブ・サマリー

第8回 International Open Forum on Data Society (IOFDS) Round Table は、Data Spaces Week 2026 Tokyo (DSW2026 Tokyo) の一環として、2026 年 9 月 14 日から 16 日まで東京大学で開催された。本会合には、日本およびその他の地域の政府、産業界、学術界、標準化コミュニティ、ならびに Data Space 関連組織から、3 日間で延べ 163 名（現地参加 105 名、オンライン参加 58 名）が参加した。3 日間のプログラムは、Welcome Messages、Status Reports、Keynote Address、Sponsor Presentation、および 2 つのテーマ別 Discussion セッションで構成された。

Welcome Messages では、AI 時代におけるデータ社会の発展に関する政策的、制度的、産業的な観点が示された。主要なトピックには、デジタル・アイデンティティおよび Verifiable Credentials、個人データおよび産業データの利活用、産業競争力のための AI・データ政策、Agentic AI のためのトラスト・アーキテクチャ、データおよび AI ガバナンス、デジタル主権、製造業 Data Spaces、国際的な相互運用性、ならびに将来の AI システムを支えるフェデレーテッドなデータ基盤の必要性が含まれた。

Status Reports では、各国、各産業、各組織における Data Space および AI 関連活動の最新状況が報告された。主要なトピックには、Data Spaces をパイロット段階からスケーラブルで持続可能なエコシステムへ移行させること、Manufacturing-X、Catena-X、Semiconductor-X、Open Data Spaces、Gaia-X、およびその他の産業 Data Space の取組、Asset Administration Shell とデジタルツイン、Data Space のガバナンス、トラスト、認証、法的枠組み、ISO/IEC、IEC、IEEE 3800、EN 18235 を含む国際標準、データ取引およびデータ利用権、Digital Product Passports、セマンティック相互運用性、AI-ready data および knowledge、合成データ、ならびに製造、自動車、半導体、素材・繊維、金融、ヘルスケア、スマートシティ、気象サービスにおける分野別応用が含まれた。

Keynote Address 「Smart Data Ecosystems」では、Data Spaces と Industrial AI の融合に焦点が当てられた。参加組織間のトラストに加え、データ、AI モデル、AI エージェントに対するトラストの重要性が強調された。また、共有された産業データ、デジタルツイン、AI エージェントが、組織間における新たな価値創出の形をどのように生み出し得るかについても議論された。

最終日には、2 つのテーマ別 Discussion が行われた。Theme 1 「Data Space standardization landscape and collaboration」では、進行中の標準化活動相互の関係と、Standards Development Organizations (SDO) 間の連携を促進するうえで IOFDS が果たし得る役割について検討された。参

加者は、ISO/IEC の Data Space 標準、Trusted Data Transactions、IEEE の Data Trading Systems 標準、トラスト・フレームワーク、用語、ならびに異なる標準化コミュニティ間で情報を共有するための仕組みについて議論した。この議論では、IOFDS 自体が SDO となるべきではない一方、既存の活動との重複を避けながら、早期の情報共有、調整、および連携のための場を提供できることが確認された。

Theme 2 「AI Spaces for international collaboration」 では、まだ形成途上にある AI Space という概念と、Data Spaces と AI エージェントとの関係について検討された。トピックには、AI エージェントのアイデンティティとトラスト、権限の委譲、アクセス制御と認可、利用ポリシー、プロベナンス、活動ログ、AIBOM、Agent-to-Agent 通信、MCP、Data Space Connector の役割、知的財産、説明責任、およびガバナンスが含まれた。参加者は、この概念にはさらに実践的な検討が必要であり、国境を越えた実験、ユースケース、および共通の problem statements の収集が、今後の国際連携の基礎となり得るとの認識を共有した。

NTT DATA Group による **Sponsor Presentation** では、Data Spaces のスケール化に向けた取組と Social Data Platform Concept が紹介された。これには、セキュアな処理技術、およびデータ主権、利用制御、監査可能性を維持しながら、AI エージェントが認可された分散データにアクセスできるようにする仕組みが含まれた。

Round Table は、**動議により 3 つの決定を採択した。**

第一に、Round Table は、本会合の終了時から次回の対面会合の終了時までを任期とする IOFDS の **Officer** を承認した。**Masaru DOBASHI が Chairperson、Lars NAGEL が Vice Chair、Isamu YAMADA が Secretary** に選出された。

第二に、次回の **IOFDS 対面会合の開催地** について、Round Table は、IOFDS mailing list を通じて **nomination** の公募を行い、その受付期間を **2026 年 10 月末まで**とすることを決議した。提案には、local host、venue、proposed date、financial plan、およびその他の関連する開催条件に関する情報を含めることとされた。

第三に、国際標準化活動について、Round Table は、**IOFDS メンバーが国際標準化活動に関する情報を IOFDS と共有し、IOFDS に連携を求めることを IOFDS として推奨する、**という内容を IOFDS の consensus として承認した。ただし、そのような活動は、各メンバーが参加しているそれぞれの国際標準化活動の規則に違反しない範囲に限るものとされた。

Table of Contents

1	Day1 Monday, September 14.....	6
1.1	Attendees.....	6
1.2	Call for the meeting to order.....	6

1.3	Agenda Approval	6
1.4	Opening Remarks.....	6
1.5	Welcome Message Session 1	6
1.5.1	Masanori KUSUNOKI, Digital Agency	6
1.5.2	Aki NAKAGAWA(on behalf of Kentaro NAGAI), Ministry of Internal Affairs and Communications (MIC)	7
1.5.3	Akiyoshi MATONO, Ministry of Economy, Trade and Industry (METI)	7
1.5.4	Chiseki Sagawa, Innovation Platform Agency, Japan (IPA)	8
1.5.5	Naoto Kikuchi, Digital Policy Forum Japan (DPFJ).....	8
1.5.6	Kazuo Nakashima, Robot Revolution & Industrial IoT Initiative (RRI).....	8
1.5.7	Koichi Akaishi, Japan Digital Trust Forum (JDTF)	9
1.6	Status Report Session 1.....	9
1.6.1	Marco Schuldt, BMW Germany.....	9
1.6.2	Recess Remarks	10
2	Day 2 Tuesday, September 15	11
2.1	Attendees.....	11
2.2	Resumption of the Meeting	11
2.3	Agenda Review and Amendment.....	11
2.4	Welcome Message Session 2	11
2.4.1	Noboru Koshizuka, The University of Tokyo	11
2.5	Status Report Session 2.....	11
2.5.1	Dongpo Deng, Data-driven Application (ODA).....	11
2.5.2	Masaru Dobashi, NTT DATA Group Corporation	12
2.5.3	Kazuo Nakashima, Robot Revolution & Industrial IoT Initiative (RRI).....	12
2.5.4	Hiroshi Mano, Data Society Alliance (DSA)	13
2.5.5	Kenji Hiramoto, Innovation Platform Agency (IPA)/Japan AI Safety Institute (AIS)	13
2.5.6	T V Gopal, Mahindra University	14
2.5.7	Dominik Rohrmus, LNI4.0 / Siemens	14
2.5.8	Sebastian Schneider, DMG MORI.....	15
2.5.9	Christian Mosch, Industrial Digital Twin Association (IDTA).....	15
2.6	Keynote Session 1	16
2.6.1	Prof. Dr.-Ing. Boris Otto, Fraunhofer ISST / TU Dortmund University	16
2.7	Status Report Session 3.....	16
2.7.1	Klaus Ottradovetz, d3e	16
2.7.2	Ulrich Ahle, Gaia-X	17
2.8	Recess Remarks.....	17
3	Day 3 Wednesday, September 16	19
3.1	Attendees.....	19

3.2	Resumption of the Meeting	19
3.3	Status Report Session 4.....	19
3.3.1	Takafumi Ochiai, Atsumi & Sakai.....	19
3.3.2	Lars Nagel, International Data Spaces Association (IDSA)	19
3.3.3	Taka Matsutsuka, Fujitsu Research	20
3.3.4	Nikolaos Saklampanakis, Fujitsu/ Catena-X.....	21
3.3.5	Xiaomi An, Renmin University of China	21
3.3.6	Hanno Focken, Catena-X worldwide	22
3.3.7	Nobuyuki Ogura, Industrial Value Chain Initiative (IVI).....	22
	Q&A	23
3.3.8	Harald Gossner, Semiconductor-X Germany	23
3.3.9	Wan-Yu Chen, Central Weather Administration, TAIWAN	23
3.3.10	KEUNWOOK KIM, Daegu Digital Industry Promotion (DIP)	24
3.3.11	MINKI OH, Syntherixs Corp.....	24
3.3.12	Didier Navez, Dawex	25
3.4	Discussion	25
3.4.1	Theme 1: Data Space standardization landscape and collaboration.....	25
3.4.1	Discussion	27
3.4.2	Theme 2: AI Spaces for international collaboration	28
3.5	Sponsor session.....	30
3.5.1	Miki Kanno, NTT Data Group.....	30
3.6	Officer Election.....	30
3.7	Future Venue	30
3.8	Decision and wrap-up	31
3.9	Closing remarks	31

1 Day1 Monday, September 14

1.1 Attendees

Day 1 Participants: 44 (in person: 27, online: 17)

1.2 Call for the meeting to order

Hiroshi Mano, Chair of the IOFDS, called the meeting to order and welcomed both in-person and remote participants. At the beginning of the meeting, he explained the IOFDS meeting policy regarding the handling and disclosure of meeting statements, presentation materials, and participants' names.

1.3 Agenda Approval

Mano introduced the agenda for the 8th IOFDS Round Table, which had been shared with the participants in advance. A motion was made and seconded to approve the agenda. With no objections raised, the agenda was approved as follows:

Motion 2: Approval of Meeting Agenda

Motion to approve the agenda the agenda as follows:

[DSW2026 Tokyo_8th IOFDS Agenda_0914r1.2.xlsx](#)

- Moved by Xiaomi An
- Seconded by Wen Wei

Approved by unanimous consent

Note 1: The final agenda, as modified during the meeting, is [DSW2026 Tokyo_8th IOFDS Agenda_0915r1.4.xlsx](#).

Note 2: The Chair conducted the meeting using chair slide "[D1-D3_IOFDS_Chair_slide_20260914.pdf](#)," and the confirmed results were reflected in "[D1-D3_IOFDS_Chair_slide_20260914_Confirmed.pdf](#)"

1.4 Opening Remarks

Mano briefly reviewed the history of the IOFDS, which originated from the first Round Table held in Brussels in February 2023. He explained that the forum had subsequently developed into the International Open Forum on Data Society (IOFDS) and had continued to provide an open platform for information exchange and discussion on data sharing, data use, and related international collaboration.

He also outlined the objectives of the Tokyo meeting, including the exchange of status reports and presentations, discussions on future activities, the selection of the future meeting venue, and the election of the next Chair and Secretary in accordance with the IOFDS Policies and Procedures.

Mano then handed over the facilitation of the session to Masaru Dobashi, Vice Chair of the IOFDS. Dobashi welcomed the participants and briefly introduced the agenda for the day before proceeding to the series of welcome messages and presentations.

1.5 Welcome Message Session 1

1.5.1 Masanori KUSUNOKI, Digital Agency

Masanori KUSUNOKI, Digital Agency, Government of Japan, delivered a Welcome Message using the presentation file, "[D1_1355_WM1_Masanori_Kusunoki_2026-09-14-UTokyo_Final_Rev.pdf](#)," entitled "**Data Interoperability for the AI Era: How Japan Connects Systems, Industries and Regions.**"

Kusunoki introduced Japan's recent efforts to strengthen its digital identity infrastructure and improve interoperability in the AI era. He first explained the growing use of the My Number Card and the expansion of its functionality from a physical identification card to digital identity services available on smartphones. He also introduced Japan's work on Digital Identity Wallets and Verifiable Credentials (VCs), emphasizing the importance of privacy protection, selective disclosure, reliable issuance and verification, and the development of an ecosystem that can support various public and private credentials.

As an example of international interoperability, he presented the cooperation between Japan and the EU on digital identity. Under the EU-Japan Digital Partnership, a pilot project on educational credentials demonstrated that digital credentials could be issued, presented, and verified across borders even when the two sides have different governance frameworks and technical architectures.

Kusunoki also discussed the importance of interoperability at the domestic and regional levels. Drawing on lessons from disaster response, including the Kumamoto earthquake, he noted that differences among local-

September 2026, Isamu Yamada, Secretary of IOFDS

government systems can hinder information sharing and coordinated operations during emergencies. He stressed that interoperability among identity systems, data systems, and local-government infrastructures will become increasingly important, particularly in preparing for large-scale disasters that may affect multiple prefectures.

He further referred to the growing use of AI and coding agents in government digitalization. While AI can accelerate system development and support increasingly complex administrative processes, he emphasized that such systems ultimately depend on reliable data, digital identities, credentials, and interoperable infrastructures.

In conclusion, Kusunoki highlighted the need to advance interoperability not only within Japan but also internationally. He emphasized continued cooperation on digital identity, Verifiable Credentials, data interoperability, and related governance frameworks as essential foundations for the development of a trusted digital and AI ecosystem.

1.5.2 Aki NAKAGAWA(on behalf of Kentaro NAGAI), Ministry of Internal Affairs and Communications (MIC)

Aki NAKAGAWA, MIC, delivered a Welcome Message **on behalf of Kentaro NAGAI**, using the presentation file, “[D1 1415 WM2 20260914 Kentaro Nagai MIC.pdf](#),” entitled “**Initiatives for Data Utilization at the Ministry of Internal Affairs and Communications.**”

Nakagawa welcomed the participants to Data Spaces Week 2026 Tokyo and highlighted the importance of international collaboration on data sharing and utilization in the AI era. She then introduced recent MIC initiatives, focusing particularly on the utilization of Personal Health Record (PHR).

She explained that the growing use of generative AI and AI agents is increasing the importance of effective data utilization and robust data infrastructures. At the same time, Japan still faces challenges in utilizing personal data; according to the FY2023 Information and Communications White Paper, 52.8% of Japanese companies reported utilizing personal data such as customer information.

Nakagawa described PHR as lifelong health and medical information, including health checkup results, vaccination history, medication information, test results, and vital signs, and explained their use for health improvement, preventive healthcare, and disease management.

She also introduced mechanisms such as the Mynaportal API, which enable health and medical information held by government agencies to be provided to private-sector services with users’ consent. She emphasized that an important next step is to make effective use of health-related data accumulated by private services in actual clinical settings.

Finally, she presented MIC’s **PHR Data Distribution Platform Construction Project to Advance Medical Care**. The first phase in FY2023–2024 developed standard data exchange protocols and a PHR Data Distribution Platform, while the second phase in FY2025–2027 will conduct field demonstrations in regional healthcare and long-term care coordination.

1.5.3 Akiyoshi MATONO, Ministry of Economy, Trade and Industry (METI)

Akiyoshi MATONO, METI, delivered a Welcome Message using the presentation file, “[D1 1435 WM3 METI 260914 DSW2026.pdf](#),” entitled “**Data and AI Policy for Industrial Competitiveness in the Age of AI.**”

Matono introduced Japan’s AI and data policies for strengthening industrial competitiveness in the AI era. He explained that Japan’s Growth Strategy identifies AI, semiconductors, digital technologies, and cybersecurity as major strategic fields, and emphasized Japan’s rich data resources in manufacturing and other industrial sectors as an important national strength.

On AI policy, he highlighted **Physical AI** and multimodal foundation models as areas where Japan can leverage its strengths in manufacturing, robotics, factory automation, and other real-world industries. He also introduced initiatives including GENIAC, AIRoA, and the FRONTia Project to support AI model development, data infrastructure, robotics, and trustworthy multimodal AI.

On data policy, Matono emphasized that the value created by AI depends heavily on the data used for training and inference. In particular, he pointed to enterprise data and manufacturing data as strategic resources for Japan and stressed the importance of technologies that transform raw data into **AI-ready data** through structuring, semantic information, quality management, and governance.

He also introduced **data space technology** as a means of enabling cross-organizational data use while preserving data sovereignty. Referring to the Ouranos Ecosystem and **Open Data Spaces (ODS)**, he described

Japan's efforts to promote secure and interoperable data sharing through public-private collaboration, open technologies, and international engagement.

In conclusion, Matono emphasized that **AI and data should be considered together, from AI model development to data preparation and data sharing**, and that Japan should leverage its strengths in manufacturing and other real-world industries to strengthen its competitiveness in the AI era.

1.5.4 Chiseki Sagawa, Innovation Platform Agency, Japan (IPA)

Chiseki SAGAWA, Executive Officer, IPA and Deputy Director General, Digital and AI systems Design Center (DADC), delivered a Welcome Message using the presentation file, "[D1_1515_WM4_IOFDS_Opening_Remarks_IPA.pdf](#)," entitled "**Architecting Trust for an AI-Native Data Society.**"

Sagawa emphasized that AI is evolving from a chatbot into **agentic AI** that can act autonomously on behalf of users and organizations. As AI agents increasingly operate across organizational, industrial, and national boundaries, he stressed that **trust must become part of the infrastructure** supporting their activities.

Using road traffic as an analogy, he explained that trust in a social system is not created by technology alone. It is built through multiple layers, including engineering, law, certification, social norms, and continuous assurance. He argued that while such trust in traffic systems has developed over many decades, society cannot wait for a similarly long trial-and-error process for agentic AI; trustworthy architecture must therefore be designed upfront.

Sagawa then connected this concept to data spaces, noting that existing data-space initiatives already provide important foundations such as data sovereignty, shared context, and identity across organizational boundaries. However, agentic AI introduces an additional requirement: it is necessary to establish trust not only in the data, but also in the AI agent that uses and acts upon that data.

In conclusion, he emphasized that "**Data Spaces with Trust**" is an architecture that has already begun to be built and called for extending this foundation to support trust at the agent level in the era of agentic AI.

1.5.5 Naoto Kikuchi, Digital Policy Forum Japan (DPFJ)

Naoto KIKUCHI, Representative Director, DPFJ, delivered a Welcome Message using the presentation file, "[D1_1530_WM5_260909_digitalpolicyagenda_DPFJ.pdf](#)," entitled "**Digital Policy Agenda.**"

Kikuchi introduced the Digital Policy Forum Japan's perspectives on data spaces, digital governance, and the institutional frameworks required for a data-driven society. He noted that the characteristics of data, including non-rivalry, network effects, and near-zero marginal cost, create challenges that cannot always be addressed through conventional market mechanisms. He therefore emphasized the importance of improving the **volume, quality, and speed of data flow**, supported by policies spanning security, competition, industry, foreign affairs, and consumer protection.

He explained that digital governance should be strengthened through three closely related areas: **data governance, AI governance, and security governance**. For data governance, he highlighted issues such as standardizing connectors for data integration, enabling AI-driven data spaces and sovereign AI, implementing trust-service functions, and establishing intermediary functions for data flows. For AI and security governance, he stressed the need for AI guardrails, responsible use of AI, public-private security frameworks, threat intelligence, and mechanisms to verify the authenticity of AI training data.

Kikuchi further emphasized the importance of establishing **digital sovereignty**, consisting of data sovereignty, infrastructure sovereignty, and technology sovereignty, supported by digital governance as a set of basic rules for managing national digital assets.

He also called for a cross-sectoral legal and institutional framework for data utilization and data spaces, together with an appropriate balance between promoting data use and protecting personal information. In addition, he stressed the importance of developing data spaces in priority sectors such as healthcare, finance, education, mobility, and industry, while supporting cross-sectoral interoperability, concrete use cases, sustainable business models, and continued investment in data integration platforms.

1.5.6 Kazuo Nakashima, Robot Revolution & Industrial IoT Initiative (RRI)

Kazuo NAKASHIMA, General Manager, RRI, delivered a Welcome Message using the presentation file, "[D1_1545_WM6_20260914_IOFDS_RRI_welcome_speech_r1.pdf](#)," entitled "**A Manufacturing Perspective from RRI.**"

Nakashima emphasized that data spaces are entering a new phase. While previous efforts focused on principles, architecture, and proof-of-concepts, the key question is now whether data spaces can create **sustainable industrial value**. From a manufacturing perspective, companies need clear incentives to participate, such as improvements in productivity, resilience, sustainability and compliance, or the creation of new business opportunities.

He noted that conventional use cases such as supply-chain visibility, traceability, carbon and environmental data, and Digital Product Passports remain important, but should be regarded as means rather than final goals. The more fundamental question is what motivates companies, including SMEs, to share data as part of their everyday business.

Nakashima also highlighted the growing relationship between data spaces and **Industrial AI**. While AI requires access to industrial data, manufacturing also requires careful consideration of responsibility, product liability, intellectual property and confidentiality, as well as data quality and provenance. He stressed that the challenge is to connect data, AI, manufacturing processes, and responsibility in a trusted manner. He further emphasized the importance of global interoperability. Rather than creating a single global data space, different regional and industrial approaches should be able to retain their own characteristics while connecting through interoperability. From the manufacturing perspective, he identified four priorities: **business value, practical implementation, interoperability, and responsible innovation**.

In conclusion, Nakashima stressed that the next challenge for data spaces is not simply to increase data sharing, but to create sustainable industrial value through trusted data sharing and Industrial AI, with different approaches connected through interoperability.

1.5.7 Koichi Akaishi, Japan Digital Trust Forum (JDTF)

Koichi AKAISHI, JDTF, delivered a prerecorded Welcome Message using the video file, “[D1_1600_WM7_Koichi Akaishi JDTF 20260831.mp4](#).”

Akaishi recalled that at the previous year’s Data Space Week he had emphasized the importance of establishing trustworthy digital environments based on the concept of **Data Free Flow with Trust (DFFT)**. He noted that the rapid expansion of AI agents over the past year has made this issue even more important, as AI is evolving from a conversational interface into an autonomous actor capable of making decisions and executing actions.

He explained that this development is changing the nature and scale of cybersecurity threats, including automated attacks by malicious AI agents, unauthorized access without direct human involvement, and impersonation by fake agents. At the same time, he stressed that establishing a robust trust foundation for AI agents could enable significant benefits for society.

Akaishi introduced emerging international efforts to develop trust frameworks for AI agents, referring to developments involving verifiable credentials, digital wallets, and agent access to data spaces, as well as work by organizations such as the **Trust over IP Foundation** and the **Internet Engineering Task Force (IETF)**. He also noted that Japan is advancing related initiatives through the **Digital Agency’s Priority Plan 2026** and the **Public-Private Council for Data Collaboration**.

He further introduced JDTF’s new white paper, “**Trusting Data Spaces¹**,” which addresses fundamental concepts of trust in data spaces, identity and attributes, Verifiable Credentials, authentication, logging, trust models for AI-agent access, and directions for international cooperation and standardization.

In conclusion, Akaishi expressed his expectation that Data Space Week would provide an opportunity for Japan to share its trust foundations internationally and serve as a catalyst for new forms of international collaboration.

1.6 Status Report Session 1

1.6.1 Marco Schuldt, BMW Germany

Marco SCHULDT delivered a Status Report using the presentation file, “[D1_1605_SR1_260914_IOFDS_Marco Schuldt.pdf](#),” entitled “**Data Ecosystems for the European AI Value Chain**.”

Schuldt provided an update on developments in Germany and Europe related to data ecosystems and the European AI value chain. He explained that Europe is pursuing a complementary approach combining **compute**

¹ JDTF’s white paper on trust in data spaces, published as “Trust in Data Spaces: Overview, Usage, and Future Challenges” <https://jdtf.or.jp/news/2026/0326-01.php>

infrastructure, industrial data ecosystems, and sovereign sector-specific foundation models as key building blocks for digitally sovereign European industries.

He introduced the **IPCEI on Compute Infrastructure Continuum (IPCEI-CIC)**², which aims to establish a sovereign European AI-computing infrastructure based on a multi-provider architecture. The initiative supports open access to cloud and edge computing resources, secure connectivity, and interoperability through common architectures.

Schuldt emphasized that industrial AI often requires computing resources close to factories and industrial sites, particularly where low latency, data sovereignty, and protection of sensitive industrial data are important. He also introduced the **8ra Initiative**, a decentralized multi-provider cloud-edge continuum designed to enable interoperability and seamless workload distribution across providers and borders, supported by open-source activities such as **NeoNephos**.

He concluded that trusted data access must be combined with interoperable and federated computing infrastructure, and that data spaces, cloud-edge infrastructure, and industrial AI should evolve together as part of the European AI ecosystem.

Q&A :

Q) Dobashi asked what is needed to realize a **vendor-agnostic architecture** in a multi-provider ecosystem.

A) Schuldt replied that common rules and business mechanisms are required, particularly for workload transfer and cost allocation among providers. He referred to Europe's experience with **GSM roaming** as an analogy for inter-provider coordination and cost allocation.

1.6.2 Recess Remarks

Hiroshi MANO, the Chair, thanked the participants for the day's discussions and noted that additional Status Reports would continue the following day, followed by discussion sessions.

He highlighted two key issues for further consideration: **cross-border collaboration** and **trust**. Referring to the previous presentation on European initiatives, he stressed the need to consider how different regions can collaborate across borders. He also noted that while many participants emphasized the importance of trust, further discussion is needed on how trust in data can actually be ensured, including mechanisms, regulations, and data provenance.

Mano recalled that the original purpose of the IOFDS Round Table was to help participants understand each other's activities. He noted that mutual understanding has progressed and emphasized that the next step should be to move toward concrete collaboration and action.

He then declared the meeting in recess until **09:30 a.m. the following day**.

² [IPCEI Compute Infrastructure Continuum | BMW](#)

2 Day 2 Tuesday, September 15

2.1 Attendees

Day 2 Participants: 58 (in person: 39, online: 19)

2.2 Resumption of the Meeting

Masaru Dobashi, Vice Chair of the IOFDS, resumed the meeting on the second day and welcomed the participants. He briefly introduced the schedule for the day, including the welcome message, status reports, keynote address, and other presentations.

2.3 Agenda Review and Amendment

Dobashi reviewed the agenda for the second day and explained that a schedule change had been made due to a change in Lars Nagel's travel schedule. Nagel's presentation was rescheduled to the following day, and the order of some presentations was adjusted accordingly.

As the overall agenda had already been approved on the first day, the participants were asked to approve the amendment to the agenda. The amendment was moved and seconded, and, with no objections raised, it was approved.

2.4 Welcome Message Session 2

2.4.1 Noboru Koshizuka, The University of Tokyo

Noboru KOSHIZUKA, The University of Tokyo, delivered a Welcome Message. He first welcomed participants to the Hongo Campus and briefly introduced the University of Tokyo, the Graduate School of Interdisciplinary Information Studies, and the Daiwa Ubiquitous Computing Research Building, where the meeting was held.

Koshizuka then reviewed the evolution of data spaces from earlier IoT and centralized data platforms toward federated architecture based on data sovereignty and connectors. He also reflected on the development of AI and emphasized that, as foundation models consume increasing amounts of open and general-purpose data, future AI systems will need secure access to distributed, confidential, real-time, and domain-specific data held by organizations.

His main message was that **AI needs federation**. He explained that AI agents will increasingly need to connect to multiple types of databases and data spaces during inference and reasoning, while maintaining security and trust. Technologies such as RAG, graph databases, natural-language access to databases, MCP, and A2A were introduced as examples of technologies that could support such integration.

Koshizuka also introduced work toward a cross-integrated platform connecting different data spaces and AI models. As a practical example, he demonstrated the use of generative AI to interact with the smart-building systems of the venue, illustrating how AI agents could securely access and control federated IoT and building systems.

Finally, he introduced related activities at the University of Tokyo, including a Data Space School for industry professionals, international research collaboration, work on AI Spaces, and an upcoming academic session related to data spaces and smart cities.

2.5 Status Report Session 2

2.5.1 Dongpo Deng, Data-driven Application (ODA)

Dongpo DENG, Vice President, ODA, delivered a Status Report using the presentation file, "[D2_1000_SR2_20260915_IOFDS_StatusReport_Taiwan's Data Ecosystem in the AI Era.pdf](#)," entitled "**Taiwan's Data Ecosystem in the AI Era.**"

Deng introduced recent developments in Taiwan's data ecosystem and explained how data governance is becoming a core component of national AI infrastructure. Taiwan's AI strategy combines computing infrastructure with data infrastructure, including Open Data, data sharing, AI-ready data, data governance, Data Spaces, and knowledge resources.

He explained that Taiwan is moving from a traditional **Open Data** model toward a broader model of **data circulation**, in which government, industry, research, and society exchange data in multiple directions. Government data infrastructure is also evolving from serving human users and applications toward supporting AI agents and AI-ready data.

Deng positioned **Data Spaces** as an operational framework for governed data circulation across independent organizations, combining identity and trust, metadata and discovery, policy and usage control, and federated sharing. He introduced Taiwan's draft **Data Space Creation Guidance Framework**, which addresses business, legal, operational, and technical dimensions and emphasizes trust, metadata governance, interoperability, and avoidance of vendor lock-in.

He also introduced an AODP experiment using **MCP** as a lightweight way to explore cross-border interoperability before full Data Spaces are established. He stressed that MCP can provide technical access and connectivity, but does not by itself solve semantic interoperability: systems may be connected without sharing the same meaning.

To address this gap, Deng proposed an **Adaptive Knowledge Layer** to support concepts, mappings, rules, profiles, and semantic learning across countries and domains, while keeping human governance responsible for determining authoritative knowledge.

In conclusion, he emphasized that sustainable AI and data ecosystems require both physical infrastructure and data infrastructure, a shift from openness to governed data circulation, and greater attention to cross-border governance and semantic interoperability.

2.5.2 Masaru Dobashi, NTT DATA Group Corporation

Masaru DOBASHI, NTT DATA, delivered a Status Report introducing recent data-space-related activities and research on distributed data governance.

Dobashi first presented examples of NTT DATA's involvement in data-space initiatives in Europe and Japan, including the **Digital Product Passport (DPP) registry**, healthcare-related data spaces, cyber-resilience initiatives, battery traceability, chemical-industry data spaces, and contributions to Japan's **Ouranos Ecosystem** and **Open Data Spaces (ODS)**. He also referred to open-source contributions, including ODS SDK development and collaboration with the University of Tokyo on test events and hands-on activities.

He then introduced technologies for handling more sensitive and business-critical data. These included a **sovereign data platform for AI agents**, federated RAG architectures, virtual data integration, and confidential computing technologies designed to enable collaboration among organizations while protecting raw data and data sovereignty.

In the second part, Dobashi presented ongoing research on **distributed data governance and distributed data management**. He noted that stakeholders often use the same terminology while assuming different organizational contexts and governance requirements. To address this, his team is developing a framework that makes these differences explicit by considering factors such as organizational distance and governance capabilities.

The framework identifies governance capabilities based on existing models and methodologies, and uses them together with stakeholder distance to visualize gaps between current and required capabilities. Dobashi explained that this approach can help organizations understand differences among stakeholders, structure discussions, and build practical consensus without depending on any specific technology or solution.

2.5.3 Kazuo Nakashima, Robot Revolution & Industrial IoT Initiative (RRI)

Kazuo NAKASHIMA, General Manager, RRI, delivered a Status Report using the presentation file, "[D2_1040_SR4_20260915_IOFDS_RRI_status_report_r1.pdf](#)," entitled "**Toward Manufacturing Dataspace in Japan.**"

Nakashima reported on RRI's recent domestic and international activities related to manufacturing data spaces. These included discussions on **Open Data Spaces (ODS)** and Germany's **MX Port**, participation in Hannover Messe and the International Manufacturing-X Council, as well as involvement in international standardization activities, particularly **IEC SyC Smart Manufacturing WG8 on Data Space for Smart Manufacturing**.

He introduced **Open Data Spaces (ODS)** as an open and scalable foundation for distributed data, designed to accommodate organizational and national diversity. He highlighted its vendor-agnostic, institution-agnostic, and service-oriented characteristics, and referred to practical applications in battery and automotive, unmanned aircraft systems, and chemical and circularity management.

Nakashima also introduced RRI's **Manufacturing Data Space Action Group (AG4)**, which works on common understanding, use cases, engineering innovation, and dissemination. He stressed that, beyond platform design, an important challenge is encouraging manufacturing companies to actively participate and invest in data ecosystems, while also improving semantic interoperability and user readiness.

He further announced the **RRI International Symposium on November 10, 2026**, which will address data-space scaling, industrial AI, and Japan–Germany collaboration, including an update on International Manufacturing-X.

In conclusion, Nakashima emphasized that data utilization and AI will transform manufacturing, but successful data spaces require not only technology and system design, but also capable users, sustainable ecosystems, continuous standardization, and collaboration among domestic and global stakeholders.

2.5.4 Hiroshi Mano, Data Society Alliance (DSA)

Hiroshi MANO, DSA, delivered a Status Report using the presentation file, “[D2_1100_SR5_Hiroshi_Mano_DSA.pdf](#),” entitled “**Japan’s Data Collaboration through DSA – The Latest Developments in Data Trading.**”

Mano introduced DSA’s recent activities covering data-space infrastructure, data markets, trust, and international standardization. He explained that Japan is advancing these areas in an integrated manner, building on existing assets such as SIP-EX/DATA-EX while avoiding unnecessary reinvention.

He first introduced **DATA-EX**, an autonomous and decentralized infrastructure for cross-organizational data discovery and utilization that preserves data sovereignty. As of August 2026, **71,264 datasets** from 31 data sources and 1,284 provider organizations were listed, including public, private, and contract-based data.

Mano then explained the **Data Usage Rights Trading** initiative, which focuses on trading rights and conditions for data use rather than the data itself. A renewed demonstration, including an order-amendment function to improve price discovery and liquidity, is scheduled to begin in October 2026.

He also introduced **DCGO**³, a new high-trust data collaboration platform scheduled to begin development in October 2026. DCGO is intended to provide a neutral trust layer between data providers and users by verifying entity authenticity, data authenticity and integrity, rights and terms of use, and history and audit logs. Candidate use cases include manufacturing, finance, Physical AI, disaster relief, regional collaboration, and tourism.

Mano further reported on international standardization through the **IEEE 3800 DTS series**, including IEEE 3800-2024, P3800.1, and P3800.2, with the goal of establishing interoperable frameworks for data transactions, trust, and cross-data-space collaboration.

Finally, he introduced a demonstration of **AI-agent-based automated negotiation of data trading terms**, in which seller- and buyer-side AI agents negotiate data scope, usage conditions, duration, and price. He noted that this could reduce negotiation costs and enable more granular and dynamic data transactions.

In conclusion, Mano emphasized Japan’s integrated approach of connecting **data discovery, usage-rights trading, trust infrastructure, AI-based negotiation, and international standardization** to support practical and interoperable data collaboration.

2.5.5 Kenji Hiramoto, Innovation Platform Agency (IPA)/Japan AI Safety Institute (AIS)

Kenji HIRAMOTO, Chief Knowledge Officer, IPA, and Deputy Executive Director, AISI, delivered a Status Report using the presentation file, “[D2_1120_SR6_Kenji_Hiramoto_260915IOFDS_Status_report.pdf](#),” entitled “**Jump into the Cutting Edge Field.**”

Hiramoto first introduced IPA’s new organizational structure following its reorganization in September 2026. The former Digital Architecture Design Center and Digital Infrastructure Center were integrated into the **Digital & AI Systems Design Center**, which now covers areas including ODS, data management, data quality, reference data models, semantics, smart cities, legal engineering, and requirements engineering. He also introduced his new role as **Chief Knowledge Officer (CKO)**.

He emphasized that the next stage is not only about AI and data, but also about **knowledge**. In particular, he argued for moving from **AI-ready data to AI-ready knowledge**, noting that tacit knowledge, organizational knowledge, and practical experience are important competitive resources, especially in areas such as manufacturing, craftsmanship, and services.

Hiramoto introduced a **knowledge cycle** linking signals, data, information, intelligence, knowledge, intention, ideas, plans, decisions, and execution. He stressed that experience plays a key role in closing the loop by revealing gaps and continuously improving knowledge, data quality, semantics, rules, and governance. He also presented a first draft of **Knowledge Engineering within a Data Space**, combining human knowledge,

³ DCGO: Data Credit Guarantee Organization (tentative name)

organizational knowledge, data knowledge, AI knowledge, and experience with federated Data Spaces. The aim is to transform distributed resources into contextual and actionable knowledge while supporting trusted decisions, organizational learning, and innovation.

Finally, Hiramoto discussed the management of **Agentic AI**, emphasizing the importance of transparency and traceability. He referred to technologies and frameworks such as **SPDX 3.0**, AI Bill of Materials (AIBOM), ISO 5259, AI quality management, and data quality management as possible components for understanding the agents, data, and quality information involved in multi-agent AI systems.

He concluded by calling for collaboration with the IOFDS community in developing these emerging approaches.

2.5.6 T V Gopal, Mahindra University

Dr. T. V. Gopal, Adjunct Professor, Department of Computer Science and Engineering & Artificial Intelligence, Mahindra University, delivered a Status Report using the presentation file, "[D2_1140_SR7_FINAL_Gopal_Mathematical_Foundations_Report.pdf](#)," entitled "**Mathematical Foundations of Data Spaces.**"

Gopal presented his work in two parts: the mathematical foundations of data itself, and the more challenging question of conformance with the IOFDS definition of a Data Space. In the first part, he proposed viewing data as a mathematical space involving sets and logic, vectors and matrices, metrics, topology, geometry, probability, graphs, time, transformations, and semantics. He described a progression from **objects** → **representation** → **distance** → **relationships** → **geometry** → **uncertainty** → **transformation** → **meaning**, ultimately supporting analysis, inference, and knowledge.

Using city data as an example, he illustrated how mathematical structures can represent objects, relationships, distance, spatial position, uncertainty, temporal change, and transformations. He emphasized that such foundations can support cyber-physical systems and large-scale computational processing beyond conventional database-oriented representations.

In the second part, Gopal addressed the broader mathematical foundations required by the IOFDS definition of a Data Space. He noted that a Data Space includes not only data, but also **participants, relationships, governance, trust, security, sovereignty, interoperability, and usage control**. He argued that these requirements cannot be represented by a single mathematical discipline, but require a composition of structures including logic, graph theory, probability, cryptography, formal methods, policy models, and access-control models.

He proposed a layered approach distinguishing the **mathematical foundations of data** from the **mathematical foundations of the Data Space as a data-sharing ecosystem**. His proposed framework covers data representation, semantics, participants, governance, trust, security, sovereignty, decentralization, provenance, and integration.

In conclusion, Gopal suggested further collaborative work to formalize these concepts and proposed developing a special-theme publication on the **Mathematical Foundations of Data Spaces**, with contributions from the IOFDS research community.

Q&A:

Q) Gopal proposed preparing a special-theme publication on the Mathematical Foundations of Data Spaces and asked about involving Hiroshi MANO as a co-editor and drawing on contributions from the IOFDS community.

A) Mano noted that if the proposal were to be submitted formally on behalf of IOFDS, consent from IOFDS members would be needed, since IOFDS is not a formal legal entity. Gopal clarified that he intended it as a research publication involving individual researchers and their contributions.

2.5.7 Dominik Rohrmus, LNI4.0 / Siemens

Dominik ROHRMUS, International Manufacturing-X Council (IMXC) and Siemens, delivered a Status Report using the presentation file, "[D2_1330_SR8_Dominik_IMXC-IOFDS-Sept2026-V1.pdf](#)," entitled "**International Manufacturing-X Council – Making Data Work at Scale.**"

Rohrmus reported on the continued expansion of the **International Manufacturing-X Council**, including participation from additional countries and regions. He emphasized that the Council continues to follow a standards-based approach rather than relying on proprietary solutions.

He then introduced the emerging **Industrial AI ecosystem**, structured around four layers: hardened AI infrastructure, industry-grade datasets, industry-specific AI models, and Industrial AI applications. He stressed

September 2026, Isamu Yamada, Secretary of IOFDS

that manufacturing requires high-quality and trustworthy datasets because hallucinations or unreliable AI outputs are unacceptable in critical industrial environments.

Rohrmus explained that the IMXC is adapting its activities toward Industrial AI by aligning infrastructure and data foundations and deepening technical interoperability among approaches such as **i3X API, ODS, and MX-Port**. He emphasized the need for common guidelines and international standards to support Industrial AI across regions.

He also introduced the **IMXC Showcase**, which demonstrates practical interoperability across standards, reference architectures, data-space technologies, trust mechanisms, and industrial use cases. The Showcase was presented at Hannover Messe 2026 and includes use cases such as Digital Battery Passport, ski maintenance, edge management, shopfloor management, and federated trust.

Rohrmus stressed that the major challenge is increasingly not technology itself, but **market adoption**. He argued that technologies and standards are largely available, while companies still need clear business motivation, skills, governance, and understandable rules to adopt them at scale.

In conclusion, he emphasized that Industrial AI will affect all industrial sectors and that trustworthy data, interoperability, open standards, resilience, and practical adoption will be essential for its successful deployment.

2.5.8 Sebastian Schneider, DMG MORI

Sebastian SCHNEIDER, DMG MORI, delivered a Status Report using the presentation file, "[D2_1350_SR9_Sebastian_New_German_Plattform_Industrie_4.0_Internationalization_261109.pdf](#)," entitled "**New German Plattform Industrie 4.0 Internationalization – Target Vision, Realignment and Opportunities for Participation.**"

Schneider introduced the realignment of Germany's **Plattform Industrie 4.0** toward Industrial AI. The new common vision is organized around four layers: **Infrastructure, Data, Industrial Foundation Models, and AI Applications**, supported by an overarching framework covering international and regulatory aspects.

He explained that the platform's organizational structure is also being strengthened for implementation. Eight working groups now cover reference architectures and standards, production, security, legal frameworks, education and training, digital business models, SMEs and scaling, and international cooperation.

Schneider introduced the new **Working Group Internationalisation**, established in July 2026, which aims to position Plattform Industrie 4.0 as an important voice in the international discussion on Industrial AI and to promote cooperation in the pre-competitive area.

He highlighted continued cooperation through the **International Manufacturing-X Council (IMXC)** and bilateral and multilateral activities, including collaboration with Japan. Related expert groups address industrial trustworthiness and security, digital platforms, international standardization, and manufacturing data spaces.

As one concrete outcome, Schneider highlighted work on **semantic interoperability for AI-driven manufacturing**, aiming to move from static dictionaries toward a dynamic interoperability process. He also showed how Japanese and German activities can be mapped onto the four-layer Industrial AI structure.

Q&A

Q) Dobashi asked what kind of contribution or action Plattform Industrie 4.0 expects from the IOFDS community.

A) Schneider replied that IOFDS members could bring forward requests, proposals, and discussion topics related to the AI stack for further international coordination and joint solution development.

2.5.9 Christian Mosch, Industrial Digital Twin Association (IDTA)

Christian MOSCH, IDTA, delivered a Status Report using the presentation file, "[D2_1410_SR10_IDTA_and_AAS_Introduction_IOFDS.pdf](#)," entitled "The Asset Administration Shell by IDTA."

Mosch introduced IDTA as an association established in 2020 as a spin-off from **Plattform Industrie 4.0**. IDTA promotes the **Asset Administration Shell (AAS)** as a worldwide standard for industrial digital twins and supports use cases and standardization, technology transfer, testing and certification, consulting and training. IDTA currently has 135 members from 23 countries, including a strong participation from Japanese companies.

He explained that AAS is used as a core interoperability standard across Manufacturing-X projects, sometimes in combination with sector-specific standards. By using a common structure throughout the product lifecycle and across company boundaries, AAS enables information from different engineering and business

systems to be exchanged in a standardized form, reducing point-to-point data integration from an $M \times N$ model toward an $M + N$ model.

Mosch described IDTA's two standardization tracks: AAS technology specifications, including the metamodel, APIs, data specifications, security and package format; and standardized semantics through submodels. More than 100 standardized submodel templates are available for use cases including digital nameplates, technical data, bills of materials, carbon footprints and **Digital Product Passports**. IDTA also contributes its expertise to related IEC, CEN-CENELEC and ISO/IEC standardization activities.

He then introduced the **Asset Data Exchange Hub (ADX-Hub)**, which supports decentralized and federated information exchange across companies and Data Spaces. Rather than centrally storing industrial data, the Hub provides common functions such as identity, discovery, validation and access to submodel templates. Companies can discover the AAS endpoints of business partners and exchange AAS-based information directly between their own systems.

In conclusion, Mosch presented AAS as a common interoperability layer for industrial digital twins and an important technical foundation for standardized, sovereign and decentralized data exchange within Manufacturing-X and broader Data Space ecosystems.

2.6 Keynote Session 1

2.6.1 Prof. Dr.-Ing. Boris Otto, Fraunhofer ISST / TU Dortmund University

Boris OTTO, Fraunhofer ISST / TU Dortmund University, delivered a keynote using the presentation file, "[D2_1430_Keynote_20260914_SmartDataEcosystems_IOFDS_V3_PUB_BOt.pdf](#)," entitled "**Smart Data Ecosystems.**"

Otto presented a vision in which **Data Spaces and Industrial AI converge into Smart Data Ecosystems**. He explained that increasingly comprehensive digital twins will represent the real world and interact with it bidirectionally. AI agents will use these digital representations, together with rules, simulations, foundation models, and shared data, to decide and act across organizational boundaries.

He emphasized **trust** as a central design principle. Trust is required not only between participants, but also in data, AI models, and AI agents. This includes identity and authentication, data quality and provenance, data sovereignty, protection against model poisoning, and mechanisms for assessing trustworthy agent behavior.

Otto also discussed the **value-creation logic of Data Spaces**. While federated Data Spaces initially require additional costs for identity, certification, governance, and sovereignty mechanisms, he argued that trust can ultimately enable higher-value data-sharing use cases, network effects, and scalable business models.

Using Airbus as an example, he illustrated different data and AI value-creation models involving customer data, internal data, and shared supplier data. He also presented three types of Data Space and AI integration: **collaborative AI model development, inter-organizational AI model inference, and inter-organizational AI agent collaboration**.

Looking ahead, Otto stressed that organizations often need to pool scarce industrial data to develop high-quality shared AI models. A key unresolved question is therefore how to determine the contribution and resulting share of each data provider, considering factors such as data volume, quality, specificity, and the ability to withdraw contributed data.

Q&A

Q) Mano asked whether technical mechanisms such as credentials, authentication, and integrity checks are sufficient to establish trust, and referred to Japan's approach of using third-party verification.

A) Otto agreed that third-party trust anchors are important, and referred to digital wallets and Verifiable Credentials as promising mechanisms. However, he stressed that technology alone is not sufficient; companies also need a change in mindset and greater willingness to prioritize shared ecosystem goals over purely individual interests.

Q) Mano also noted that Japan lacks a broad regulatory framework for data comparable to Europe.

A) Otto replied that regulation can provide useful certainty, but excessive and complex regulation can also discourage participation, particularly among SMEs. He therefore emphasized the importance of clear, stable, and simplified rules.

2.7 Status Report Session 3

2.7.1 Klaus Ottradovetz, d3e

Klaus OTTRADOVETZ, d3e, delivered a Status Report using the presentation file, [“D2_1450_SR11_Klaus_Ottradovetz_d3e.pdf”](#), entitled **“IMXC Showcase – Status Update.”**

Ottradovetz introduced the **IMXC Showcase** as a practical environment for demonstrating how business use cases can operate across multiple decentralized data spaces and systems. The Showcase combines use cases such as the **Digital Battery Passport, ski maintenance, and shopfloor management**, while addressing interoperability of trust, identities, services, data, and semantics.

He explained that the Showcase integrates industrial standards and technologies including **MX-Port, Asset Administration Shell (AAS), OPC UA, i3X, and federated trust mechanisms**, with applications and testbeds operated across multiple countries. Its decentralized design allows each participant to retain control over its own data, services, and systems.

Looking ahead, Ottradovetz emphasized the transition from **international standards → Showcase → Industrial AI**. The plan is to develop the Showcase into a continuous environment connecting existing laboratories and testbeds, while extending current Data Space use cases with **machine learning and optimization, Generative AI, and Agentic AI**.

He also highlighted two areas for further development: making **semantic interoperability** more visible and practical, and extending the existing **federated trust** model to AI agents, including agent identity, independent validation, and trusted data sources for model development and inference.

As examples, he described possible AI agents that could support component-supplier selection based on supply-chain conditions or propose suitable R-strategies using Digital Product Passport data. He stressed that such AI functions should be treated as a natural extension of existing Data Space processes, subject to the same requirements for identity, compliance, provenance, and trust.

In conclusion, Ottradovetz invited IOFDS members to contribute additional use cases, standards, technologies, and AI concepts to the evolving IMXC Showcase, with the aim of improving **resilience, productivity, and innovation** through interoperable industrial data ecosystems.

2.7.2 Ulrich Ahle, Gaia-X

Ulrich AHLE, CEO, Gaia-X European Association for Data and Cloud, delivered a Status Report using the presentation file, [“D2_1510_SR12_Ulrich_Ahle_Gaia-X.pdf”](#), entitled **“Gaia-X Status Report.”**

Ahle focused on developments since the previous IOFDS meeting, beginning with the new **Gaia-X International Advisory Board (IAB)**. The IAB supports Gaia-X’s expansion beyond the EU by adapting the Gaia-X Trust Framework to local legislation, identifying regional trust anchors, and promoting interoperability and compliance across jurisdictions. Initial participation includes Japan, Korea, Brazil, Canada, and the Caribbean.

He then explained the extensibility of the **Gaia-X Trust Framework**, which now supports geographical and domain-specific extensions as well as a “Bring Your Own Rules” approach. This enables regional or sector-specific requirements to be added while maintaining common technical compatibility and automated compliance mechanisms.

Ahle also reported technical updates to the Gaia-X 3.0 stack, including support for OpenID-based Verifiable Credentials and updates to the Gaia-X Trust Protocol. These developments are intended to support trusted digital ecosystems, including **Trusted Artificial Intelligence environments**.

He highlighted the proposed **Cloud and AI Development Act (CADA)** and its Sovereignty Effectiveness Assurance Levels (SEAL-0 to SEAL-4), noting their relationship with the existing Gaia-X Label levels. He emphasized that Gaia-X aims to provide practical mechanisms for implementing cloud sovereignty requirements while extending the approach to non-EU regions.

Finally, Ahle reported that Gaia-X has joined several EU-funded projects, including **Data Space Support Centre 2, Compliance4DPP, and the European Compliance Stack**, while **Decade-X and Empower-X** have become Gaia-X Lighthouse Projects. He also invited participants to the **Gaia-X Summit 2026**, to be held in Vienna on November 19–20.

In conclusion, Ahle emphasized Gaia-X’s continued evolution from a primarily European trust framework toward a more internationally adaptable and interoperable foundation for sovereign, trusted AI and data ecosystems.

2.8 Recess Remarks

September 2026, Isamu Yamada, Secretary of IOFDS

Hiroshi MANO and Masaru DOBASHI thanked the participants for the day's meeting and announced that the meeting would be **recessed until 9:30 a.m. the following day**. After the recess was announced, on-site participants gathered for a group photo. Some logistical arrangements for the following day's sessions and presentations were also discussed.



3 Day 3 Wednesday, September 16

3.1 Attendees

Day 3 Participants: 61 (in person: 39, online: 22)

3.2 Resumption of the Meeting

Masaru DOBASHI resumed the meeting and briefly reviewed the agenda for the day. He noted that several Status Reports would be presented before and after lunch, followed by two discussion sessions on **Data Space standardization landscape and collaboration** and **AI Spaces for international collaboration**. He also noted that the later part of the meeting would include a sponsor session, **officer elections**, discussion on the **future venue**, and other business.

3.3 Status Report Session 4

3.3.1 Takafumi Ochiai, Atsumi & Sakai

Takafumi OCHIAI, Head of Policy Research Institute and Senior Partner, Atsumi & Sakai; Auditor, Data Society Alliance (DSA); and Co-Founder, Smart Governance Inc., delivered a Status Report using the presentation file, "[D3_0940_SR13r_Ochiai_From-Rules-to-Running-Systems.pdf](#)," entitled "**From Rules to Running Systems – What Japan Has Built, and What It Has Not.**"

Ochiai introduced recent developments in Japan's legal and policy framework for data utilization and AI. He highlighted a new certification framework for data-utilization projects, enacted in July 2026, under which certified operators may request data from administrative bodies, which provide it where the statutory conditions are met, as well as the AI Promotion Act, which he described as a promotion law without an EU-style ex ante risk-tier regime, and the 2026 amendment to the Act on the Protection of Personal Information (APPI), which introduces consent exceptions where the purpose is confined to statistical production and related purposes as defined in the Act.

He presented, as his own way of reading Japan's AI policy rather than a structure adopted by the government, four layers: strategy, guidance, support for compute and models, and safety and quality measures. He also emphasized that the government is acting not only as a regulator but as a user of AI, through initiatives such as the government generative AI environment "Gennai", procurement guidelines, and the preparation of reusable government data, and noted that the same questions recur: what may be used, on whose authority, and how the terms of that authority are recorded.

Ochiai also reviewed developments in sectoral data sharing in finance, healthcare, transport, and infrastructure, noting that registered entities, connected institutions, users, and trial participants are different figures and should be read accordingly, and that these sectors have been designed separately, with their connection to common horizontal data-sharing foundations still ahead. He also reviewed recent measures on cybersecurity, economic security, and supply-chain security.

He then described where rules meet implementation, referring to the Ouranos Ecosystem, IPA's restructuring, open-source ODS middleware, public funding, the certification and data-provision procedure, and participation in international standardization. He noted that these examples show certification, funding, reference implementations, and standards work being used together, while adding that whether this amounts to a national ordering is a larger claim than his report makes.

In conclusion, Ochiai noted that several issues remain open, including business-to-business data portability, for which the 2026 APPI amendment does not introduce a general right, and the regulation that third-party verification or "notary" functions would need. He noted that verification can be built and that contract and tort law already apply to losses, and stressed that what is not yet settled is how far reliance on a verification may go and where the boundary is drawn in contracts, institutions, and technical implementation.

3.3.2 Lars Nagel, International Data Spaces Association (IDSA)

Lars NAGEL, CEO of IDSA, delivered a Status Report using the presentation file, "[D3_1000_SR14_IOFDS_Tokyo_15.09.2026_Lars_Nagel_IDSA.pdf](#)."

Nagel emphasized that Data Spaces are entering a new phase, which he described as "**Data Spaces Season 2.**" The focus should shift from public funding, pilots, technology discussions, and repeated specification

work toward **self-sustaining business models, industrialization, rapid implementation, scaling, and value creation through data sharing.**

He argued that **technology is no longer the main constraint.** Core elements such as the IDS Reference Architecture Model, IDSA Rulebook, Dataspace Protocol, Decentralized Claims Protocol, and certification mechanisms are sufficiently mature, while the remaining challenges are governance, financing, political commitment, onboarding, and market adoption.

Nagel organized adoption into three dimensions: **depth**, meaning more participants in existing Data Spaces; **breadth**, meaning more Data Spaces across sectors and regions; and **interconnection**, meaning interoperability among different Data Spaces. He stressed that interconnection requires neutral coordination and compared the challenge to creating the equivalent of **GSM roaming agreements for the data economy.**

He also reviewed IDSA's recent standardization activities, including the alignment of **ISO/IEC 20151-1**, the **Dataspace Protocol (ISO/IEC 26450)**, and the **Decentralized Claims Protocol (ISO/IEC 26451)**, as well as updated connector conformance testing and the evolving IDS-RAM.

Turning to large-scale adoption, Nagel highlighted initiatives such as the **Data Space Adoption Forum**, **Data Space Accelerator**, **Tractus-X Accelerator**, and **DSSC2**, together with open-source infrastructure and scalable onboarding mechanisms. He stressed that millions of organizations, including SMEs, will eventually need simple and affordable ways to join Data Spaces.

Finally, Nagel emphasized the growing convergence of **Data Spaces and AI.** Data Spaces provide governed, trusted and high-quality data foundations, while AI can help automate metadata creation, policy interpretation, negotiation, and operation. He introduced three patterns: **collaborative model development**, **inter-organizational inference**, and **inter-organizational agent collaboration**, and called for further international collaboration on open questions in this area.

In conclusion, Nagel called for a shift from building specifications to building a **globally interoperable, scalable, and sustainable soft infrastructure for Data Spaces**, based on open standards, open source, sovereignty, and practical market adoption.

3.3.3 Taka Matsutsuka, Fujitsu Research

Taka MATSUTSUKA, Senior Research Director, Fujitsu Research, delivered a Status Report using the presentation file, "[D3_1020_SR15_20260916-DSW2026-AI-Spaces-EN-Fujitsu.pdf](#)," entitled "**Lessons Learned from AI Spaces Development – Collaborative Decision-Making.**"

Matsutsuka first introduced an IDSA position paper on **Trust Anchor Federation for International Data Spaces**, based on an EU–Japan proof of concept using Japan's gBizID infrastructure. The paper proposes a standardized, implementation-agnostic trust abstraction layer for international Data Space interoperability.

He then explained that AI Spaces can extend collaboration **from sharing data to sharing commitments.** Using a logistics PoC involving one shipper and five carriers, he showed how AI agents could negotiate allocation of 200 truckloads without disclosing sensitive information such as capacity, cost, or other customer commitments.

From the trial, he identified three key lessons. First, agents need a **grammar of agreement**: a simple "no" is insufficient, and procedures such as **read-back** can confirm that both sides interpret an offer in the same way before it becomes binding.

Second, a boundary is needed between **machine-executable rules and human judgment.** Objectively judgeable conditions may be handled automatically, while ambiguous or exceptional cases should be escalated to a person with appropriate authority.

Third, individually rational decisions can collectively reduce market efficiency. He noted that only the overall AI Space can observe such accumulated effects and may therefore need mechanisms to measure and allocate the costs and benefits of coordination.

In conclusion, Matsutsuka proposed extending current Data Space mechanisms with **agreed reading, authority credentials, and mechanisms for measuring system-wide effects and allocating costs and benefits**, while emphasizing that these mechanisms ultimately depend on trust in the AI agents themselves.

Q&A

Q) Lars Nagel asked whether there is already a suitable forum or protocol activity for agent-to-agent contract negotiation and how others could contribute.

A) Matsutsuka replied that he did not yet have a definitive answer and welcomed information and collaboration on existing approaches.

3.3.4 Nikolaos Saklampanakis, Fujitsu/ Catena-X

Nikolaos SAKLAMPANAKIS, Innovation and Strategy Manager, Fujitsu, delivered a Status Report using the presentation file, "[D3 1040 SR16 Nicolaos DS WEEK Japan 2026 - CX Updates - Trusted AI EG.pdf](#)," entitled "**Catena-X Trusted AI Expert Group**."

Saklampanakis introduced the newly established **Trusted AI Expert Group** within Catena-X. He explained that Catena-X Expert Groups are created under relevant committees to address specific strategic topics, develop detailed expertise and recommendations, and conclude once their defined objectives have been achieved.

The Trusted AI Expert Group was initiated following discussions among Catena-X members on the implications of AI for Data Spaces. After preparatory workshops and a call for participation, the group formally started in September 2026 with more than 20 member companies.

Saklampanakis explained that the group focuses on applying AI while preserving key Catena-X principles, including **data sovereignty, multi-party trust, regulatory readiness, interoperability, and value creation**. Its goal is to establish a foundation for responsible, transparent, sovereign, and auditable AI use across organizational boundaries.

The planned deliverables include AI collaboration patterns, architecture reference patterns, policy and semantic specifications, conformity-assessment criteria, usage-policy requirements, and a minimum metadata model for Trusted AI assets. These outputs will be validated through use cases such as using shared data for AI context or training, sharing AI services through Data Space capabilities, and using AI to support data discovery and exchange.

He concluded that the immediate next steps are to establish the group's collaboration model, roadmap, planning, and working infrastructure.

Q&A

Q) Mano asked when practical certification or conformity-assessment schemes for Data Space components could become available for industrial use, and who would be authorized to provide such certification.

A) Saklampanakis explained that Catena-X already uses **Conformity Assessment Bodies** to assess whether solutions comply with Catena-X standards and interoperability requirements, and that the Trusted AI Expert Group intends to define similar criteria for AI. He noted that other Data Spaces may adopt comparable approaches as they reach sufficient maturity.

Additional comment: Lars Nagel added that mature open-source components such as the **Dataspace Protocol and EDC connectors** could provide a basis for broader certification and scaling across multiple Data Spaces.

3.3.5 Xiaomi An, Renmin University of China

Xiaomi AN, Project Leader of ISO/IEC 25005-1:2026, ISO/IEC TR 25005-2:2025, ISO/IEC DTS 25005-3, and ISO/IEC AWI TR 25005-4, delivered a Status Report using the presentation file, "[D3 1100 SR17 20260812 ISO IEC 25005 Series standards on data use in smart cities.pdf](#)," entitled "**Progress of ISO/IEC 25005 Series standards on data use in smart cities**."

An introduced the progress of the **ISO/IEC 25005 series** on data use in smart cities. The series now covers a general framework, use-case analysis, measurement and evaluation, AI applications, and energy-data use.

She explained that **ISO/IEC 25005-1:2026** provides the general framework for data use in smart cities based on five dimensions: **data availability, data quality assurance, ease of data use, data use security, and data-enabled innovation**. It also defines guiding principles such as citizen-centric value realization, trustworthiness, connectivity, responsibility, and intelligent-service-enabled data use.

ISO/IEC TR 25005-2:2025 provides methods for collecting and analyzing use cases and deriving common considerations. The work analyzed **23 use cases from Australia, Canada, China, Japan, Korea, and the United States** to identify common patterns and considerations for smart-city data use.

An then introduced **ISO/IEC DTS 25005-3**, which addresses measurement, evaluation, and reporting. It develops indicators and measurement methods covering the five dimensions above, with the aim of making data-use assessment more operational, measurable, and verifiable.

She also presented **ISO/IEC AWI TR 25005-4**, which focuses on special considerations for AI applications in smart cities. The project is currently collecting case studies, with contributions invited from international experts. Part 5, on **energy data use in smart cities**, is also under development.

In conclusion, An explained that the series is evolving from a general framework toward domain- and application-specific guidance, including AI and energy, while maintaining a common foundation for assessing and improving data use in smart cities.

Q&A

Q) Lars Nagel asked whether the concepts and models developed for smart cities could also be applied to other domains and Data Spaces.

A) An replied that smart cities involve many sectors and that the principles, dimensions, indicators, and analysis methods of the ISO/IEC 25005 series can be mapped to and combined with standards from other domains. She encouraged cooperation with other standards communities and invited contributions, particularly for Part 4 on AI applications.

3.3.6 Hanno Focken, Catena-X worldwide

Hanno FOCKEN, Managing Director, Catena-X Automotive Network e.V., delivered a Status Report using the presentation file, "[D3 1120 SR18 Focken Hanno Catena-X Snapshot for DSW-Japan 1.pdf](#)," entitled "**Catena-X – Global Status.**"

Focken explained that the automotive industry needs a new global digital foundation to respond to increasing regulatory requirements, geopolitical tensions, cyber risks, and the growing need for multi-tier data sharing. He stressed that Catena-X focuses less on promoting "Data Spaces" as a concept and more on solving concrete business and compliance needs across global automotive supply chains.

He reported that Catena-X has moved from an initiative to an **operational ecosystem**, with more than **1,000 connected legal entities across over 40 countries and six regional hubs**, more than 70 certified apps and services, and significantly improved onboarding performance. He also referred to study-based estimates showing substantial potential business value from Catena-X use cases.

Focken then reviewed Catena-X's global expansion, including ongoing activities in Europe, North America, China, Korea, India, and Japan. He highlighted cooperation with Japan through JAMA, IPA, and the **Ouranos Ecosystem**, while noting that broader productive deployment in Japanese industry remains important for advancing practical interoperability.

He emphasized the importance of making adoption easier for companies through a clear **Catena-X User Journey** and through financial support for SMEs. The **Data Space Accelerator** is intended to help companies onboard and implement real use cases with productive data exchange rather than only conducting theoretical exercises.

Focken also highlighted the challenge of reaching lower-tier suppliers. Since many Tier-2 and Tier-N companies serve multiple industries, Catena-X has decided to strengthen cooperation with the **electronics and chemical industries** rather than remaining limited to the automotive sector alone.

In conclusion, he stressed that Catena-X can only function as a global ecosystem if its governance and membership also become more globally representative, including stronger participation from Japan.

3.3.7 Nobuyuki Ogura, Industrial Value Chain Initiative (IVI)

Nobuyuki OGURA, IVRA Task Force Chair and IVI Lean PLM Steering Committee Member, delivered a Status Report using the presentation file, "[D3 1140 SR19 Nobuyuki Ogura IVI.pdf](#)," entitled "**Lean PLM: Lean Product Lifecycle Management – Data Spaces and Loosely-Defined Standard.**"

Ogura introduced the **Industrial Value Chain Initiative (IVI)** and its practical, bottom-up approach to connected manufacturing. He explained that IVI's **Loosely-Defined Standard** aims to provide connectivity while allowing each stakeholder to retain its existing systems and independence.

He positioned **Lean PLM** as a practical approach to **brownfield interoperability**. Rather than replacing existing manufacturing and PLM systems, the approach establishes common standard metadata and uses **Integration Profiles** to map each existing system to that standard. Verified profiles can then be stored and reused through a Data Integration Platform.

September 2026, Isamu Yamada, Secretary of IOFDS

Ogura reported that a Lean PLM Task Force of 22 companies, including PLM vendors, consulting firms, and major manufacturing users, worked from June 2025 to June 2026 to create the common metamodel on a consensus basis. The resulting standard includes **150 function models and 55 information models**, and the first version was published in June 2026.

He also introduced an **Interoperability Profile Framework** that evaluates mappings using quantitative indicators for **data conformity, data sufficiency, and data reliability**. The aim is to replace subjective judgments of compatibility with measurable readiness and a concrete improvement path.

In conclusion, Ogura emphasized that interoperability with brownfield systems is a practical challenge for Data Spaces, and that the Loosely-Defined Standard approach could provide a reusable method beyond manufacturing. The first use case based on Integration Profiles is planned for completion by **April 2027**.

Q&A

Q) Mano asked who would be accountable if data were transformed or modified between the source and receiving systems.

A) Ogura replied that the approach does not assume an independent third-party intermediary performing arbitrary processing; rather, transformation would be associated with the systems or solution providers on the respective sides. He also noted that verification of the Integration Profiles is intended to support reliability.

3.3.8 Harald Gossner, Semiconductor-X Germany

Harald GOSSNER delivered a Status Report using the presentation file, "[D3_1330_SR20_Semiconductor-X_draft_GoldenDeck_IOFDS_Sep15.pdf](#)," entitled "Supply Chain Dataspace Semiconductor-X – Use Case Examples Creating Business Value."

Gossner explained that rapid growth in the semiconductor market, accelerated by the AI supercycle, requires much faster and more flexible collaboration across a highly globalized supply chain. **Semiconductor-X** therefore aims to establish a sovereign and globally interoperable data ecosystem that enables faster time to market, protection of intellectual property, management of supply-chain disruptions, and compliance with sustainability and regulatory requirements.

He introduced **Semiconductor-X** as part of Manufacturing-X and described its six main building blocks: Data Space connectivity, data interoperability, process interoperability, cybersecurity, compliance, and new business. The technical approach combines technologies and standards including **EDC, DCP, the Asset Administration Shell (AAS), SEMI standards**, and **Tractus-X**, together with security and regulatory frameworks.

The project has developed 10 demonstrators in **six use-case** families covering Product Carbon Footprint and Digital Product Passport, traceability, cross-domain data exchange, equipment and fab operations, resource optimization, and business processes. As one example, Gossner described "**unit processing as a service**," in which an external manufacturing partner can be selected and connected through the Data Space to overcome a production bottleneck while exchanging the necessary commercial, technical, logistics, and production data.

Gossner also presented a three-phase rollout strategy: first addressing areas where suitable tools are currently lacking, such as regulatory documentation and traceability; then optimizing operations across supply-chain partners; and finally transferring core business processes, such as purchase orders, to the Data Space. He noted that this approach is expected to reduce documentation effort, create new business opportunities, improve resilience, and enable broader use of AI across combined technical and business data.

In conclusion, Gossner emphasized that the semiconductor value chain requires international collaboration from the outset. Semiconductor-X is therefore seeking cooperation with semiconductor-producing regions including Japan, Taiwan, Korea, the United States, and India, with particular focus on harmonized standards for security, digital twins, Data Space interoperability, and identity management, as well as joint proof-of-concept use cases.

3.3.9 Wan-Yu Chen, Central Weather Administration, TAIWAN

Wan-Yu CHEN, Central Weather Administration (CWA), Taiwan, delivered a Status Report using the presentation file, "[D3_1350_SR21_CWA_IOFDS_Data_to_Decisions_260910.pdf](#)," entitled "**From Open Data toward Impact-Based Decision Support – The Evolving Role of Taiwan's Central Weather Administration (CWA)**."

Chen explained how CWA is moving beyond simply providing weather and earthquake data toward supporting decision-making in known operational contexts. Using Taiwan's **Central Emergency Operations**

September 2026, Isamu Yamada, Secretary of IOFDS

Center (CEOC) as an example, she showed how weather evidence is combined with information from multiple government sectors, while decision authority remains with the responsible public authority.

From the perspective of an upstream numerical weather prediction data provider, she introduced the concept of a **“Weather Data Passport”** as a working metaphor for information that should travel with data: its origin, meaning, conditions of use, and responsibility. She distinguished three relationships—**Open Data, Managed Provision, and Public Decision Support**—noting that successful data delivery does not by itself explain how the data will be interpreted or used in a decision.

As an example, Chen described decisions on suspending work and classes during severe weather. CWA provides weather evidence, public rules define possible decision paths, local actors add context such as terrain, transport, utilities, and actual disaster conditions, and the competent local authority makes the final decision. She emphasized that **authority should not silently migrate with the data**.

She also discussed the challenge of scaling customized data services and introduced Taiwan’s **41-item AI-ready data framework**, covering catalog and access, management and field quality, and format and standardization. While such measures can make provenance and meaning more machine-readable, she stressed that AI-ready data does not itself determine fitness for a particular AI model or transfer decision responsibility to AI.

In conclusion, Chen summarized the approach as: **make meaning explicit at the source, make conditions reusable at the handoff, and keep decision authority visible**. Her central message was to let trusted data travel farther while keeping responsibility clear.

3.3.10 KEUNWOOK KIM, Daegu Digital Industry Promotion (DIP)

KEUNWOOK KIM, Daegu Digital Innovation Promotion Agency (DIP), Korea, delivered a Status Report using the presentation file, [“D3 1410 SR22 Materials & Textiles Data Space Presentation DIP.pdf,”](#) entitled **“Materials & Textiles Data Space – A Data Space for the General Industry Sector.”**

Kim introduced a Korean project to establish a **Materials & Textiles Data Space** for circularity and recycling, initially focusing on the textile sector and later expanding to mobility materials. The project aims to move from publicly supported pilots toward a **private-led, self-sustaining ecosystem**, while protecting trade secrets and maintaining data sovereignty.

He explained that the model replaces centralized data collection with decentralized sharing, where raw enterprise data remains local and only verified results or credentials are exchanged. The architecture combines **IDSA/EDC-based connectors, DID/VC, Compute-to-Data (C2D), smart contracts, and blockchain-based settlement** to support secure transactions and contribution-based revenue sharing.

Three core use cases were presented: **recycled-material certification and evidence management, supply-chain traceability and Chain of Custody (CoC), and material-demand forecasting and sourcing optimization**. These services are intended to help manufacturers and global buyers meet requirements such as GRS, ESG, Product Carbon Footprint, and Digital Product Passport obligations.

Kim also described a three-year roadmap for global interoperability. The project plans to develop a Korea-tailored EDC connector, pursue staged **IDSA certification**, and test interoperability with **Catena-X**, while expanding participation from Korean textile companies to automotive-material suppliers and global brands.

In conclusion, he emphasized that the project seeks to combine regulatory compliance, protection of commercially sensitive data, private-sector operation, and cross-industry expansion to create a sustainable Data Space ecosystem connecting Korean industry with global markets.

Q&A

Q) Dobashi asked what the term **“Korean Cofinity-X”** in the presentation referred to.

A) It was explained as a proposed Korean operating organization/model for the Data Space, rather than the name of the project itself.

Additional comment: Lars Nagel noted that the appropriate operating model for Data Spaces—whether market-driven, privately operated, or based on public-private cooperation—remains an important international issue that could be discussed further within IOFDS.

3.3.11 MINKI OH, Syntherixs Corp

Minki OH, Team Leader, Syntherixs Corp., delivered a Status Report using the presentation file, [“D3_1420_SR23_Privacy-Preserving Data Trading in Data Spaces_Syntherixs.pdf,”](#) entitled **“Synthetic data in data spaces – Fictional test data and evaluation.”**

Oh introduced **synthetic data** as newly generated data that learns statistical patterns from real data while creating new records. He emphasized that synthetic data is not automatically safe: both **privacy risk and usefulness for the intended task must be evaluated** before use.

He explained two major applications of synthetic data: enabling safer data sharing and supporting AI training. In Korea, Syntherixs follows the **PIPC guidance** covering preparation, generation, verification, review, and use, and evaluates both privacy risks and task usefulness. The company currently works with tabular data and text, while face-image technology remains under development.

Oh stressed that removing obvious identifiers alone is insufficient for privacy protection. Synthetic data therefore requires transparent evaluation of residual privacy risk as well as data and task quality, particularly when used in regulated areas or cross-organizational data sharing.

As a first step for collaboration with Data Spaces, he proposed a **small test using fictional text data** for one selected use case. Syntherixs would generate fictional service messages and evaluate privacy risk, data quality, and task quality, after which participants would jointly review the results and remaining risks. No real customer or operational records would be used.

He concluded by proposing a simple three-step process: **define the test, generate and evaluate the synthetic data, and jointly review the results**, with the aim of identifying suitable Data Space use cases for further experimentation.

Q&A

Q) A participant asked about limitations of synthetic data and whether it had been applied to Agentic AI.

A) Oh replied that he had not yet worked on Agentic AI applications. He noted that synthetic data had been used to generate training data where suitable real data did not exist, but that technical problems can arise during generation and training and need to be resolved through testing.

3.3.12 Didier Navez, Dawex

Didier NAVEZ, Dawex, delivered a Status Report using the presentation file, [“D3_1430_SR24_Didier Navez_Dawex.pdf,”](#) entitled **“2026 update: project, market, standard.”**

Navez first introduced **DATA VALOR**, a strategic project proposed by Dawex under the European **IPCEI-AI** programme. The project addresses the problem that internally generated data can have significant strategic value while generally having no recognized balance-sheet value. DATA VALOR aims to develop a standardized and auditable approach for data valuation using AI capabilities such as legal-rights mapping, causal inference, explainability, automation, and standardization.

He explained that Data Space infrastructures can support such valuation by providing **verifiable identity and credentials, machine-readable usage policies, transaction traceability, data-product catalogues, and sovereign execution**. These mechanisms can supply evidence for rights, auditability, and valuation while keeping data under the provider’s control.

Navez then introduced a new Dawex reference in the **banking and finance sector**, where a major global financial group has selected Dawex to build a federated Data Space across hundreds of decentralized entities. The project addresses fragmented data systems, manual data-sharing processes, regulatory requirements, and growing demand for qualified data to support generative and Agentic AI.

Finally, he reported progress on the **Trusted Data Transactions** European standard. **EN 18235-1:2026** on terms, concepts, and mechanisms has been published, while Parts 2 and 3 address trustworthiness and interoperability requirements. The series is being developed as a harmonized European standard linked to **Article 33 of the EU Data Act**, and discussions have also started on possible internationalization through the **Vienna Agreement** and ISO/IEC.

In conclusion, Navez highlighted the growing convergence of **data valuation, federated Data Spaces, AI, and international standardization**, with trust and auditability as common foundations.

3.4 Discussion

3.4.1 Theme 1: Data Space standardization landscape and collaboration

3.4.1.1 Modderator: Hiroshi Mano

Hiroshi MANO, Moderator, opened the discussion by recalling that IOFDS is an **open forum for information exchange and collaboration**, where participants share developments from their organizations, countries, and regions and discuss possible areas for joint action.

For **Theme 1**, he emphasized that **IOFDS is not a Standards Development Organization (SDO)** and therefore does not itself develop global standards. Instead, its role is to facilitate collaboration among organizations and SDOs. He asked the presenters to briefly introduce their standardization activities and, in particular, identify **issues or problem statements that could benefit from collaboration through IOFDS**.

3.4.1.2 Input from Silvia Castellvi, IDSA

Silvia CASTELLVI provided an input to Theme 1 using the presentation file, “[1. Silvia IDSA Mapping the Data Spaces Standardization Landscape and collaboration IOFDS.pdf](#).”

Castellvi introduced IDSA’s **Data Spaces Standardization Landscape Paper v2.0** as a practical reference for understanding the relationship between Data Space implementations, international standards, European regulation, and remaining standardization gaps. She emphasized IDSA’s role in bridging real-world implementations and formal standardization activities.

She distinguished the **core Data Space foundation** from optional layers. The core consists of autonomous peer-to-peer participants and standards for concepts, communication, identity, and trust, while **Trusted Data Transactions (TDT)** and value-added services such as marketplaces or monetization can be added on top but are not substitutes for a Data Space.

Castellvi also outlined key international standards, including ISO/IEC work on Data Space concepts, the **Dataspace Protocol (DSP)** and **Decentralized Claims Protocol (DCP)**, as well as relevant IEEE standards. She highlighted IDSA’s approach of feeding experience from open-source implementations such as EDC and Tractus-X into formal international standardization.

In conclusion, Castellvi proposed “**join forces, not a new task force.**” Rather than creating a separate IOFDS standardization task force, she invited IOFDS participants to contribute updates, regional perspectives, and content to the next version of the IDSA standardization landscape paper.

3.4.1.3 Input from Christoph Strnadl, Gaia-X

Ulrich AHLE, Gaia-X, briefly introduced **Dr. Christoph F. STRNADL, CTO of Gaia-X**, who provided input to Theme 1 using the presentation file, “[2. Gaia-X 20260916 Data Space Standardization Gaia-X Perspective v2.20.pdf](#),”

Strnadl emphasized that European and international Data Space standards are generally **aligned where they overlap and complementary where they address different areas**. From the Gaia-X perspective, he highlighted **trust frameworks** as a particularly important foundation for interoperable Data Spaces.

He noted that work on Data Space trust frameworks is progressing in parallel through **ISO/IEC 20151-2** and **CEN-CENELEC**, with the two activities coordinated under the **Vienna Agreement**. He stressed the importance of developing trust frameworks that can support interoperability not only in Europe but also across regions globally.

Strnadl also explained Gaia-X’s active involvement in CEN-CENELEC, ISO/IEC, ETSI, and related initiatives, and highlighted the importance of harmonized European standards that provide a **presumption of conformity** with relevant requirements of the EU Data Act.

In conclusion, he supported the view that **a new IOFDS standardization task force is not necessary**. Instead, he encouraged IOFDS participants to contribute to existing initiatives, particularly by providing regional perspectives and trust-framework examples such as those related to **ODS-RAM**, which could inform ongoing international standardization work.

3.4.1.4 Input from Didier Navez, Dawex

Didier NAVEZ provided input to Theme 1 using the presentation file, “[3. Didier Navez_iofds - standardization landscape and collaboration - Dawex.pdf](#).”

Navez explained that three families of standards are now maturing around **Trusted Data Transactions, Data Spaces, and Data Trading Systems**, represented respectively by **EN 18235, ISO/IEC 20151, and IEEE 3800**. While these standards address different perspectives, they are often complementary, and IOFDS is a unique forum where representatives of all three communities participate together.

He revisited the question of whether IOFDS could produce useful outputs without becoming an SDO or duplicating existing work. He supported contributing to existing resources such as the IDSA standardization landscape paper, while also suggesting that IOFDS could provide additional practical value for both EU and non-EU stakeholders, particularly in the EU-Asia context.

As possible areas of work, Navez proposed focusing initially on **ISO/IEC 20151, EN 18235, IEEE 3800, and relevant non-normative sources**, with possible deliverables such as a **Q&A, terminology mapping, or comparative note**. The objective would be to help practitioners understand and navigate the evolving standardization landscape using practical, factual, and easy-to-use materials.

In conclusion, he emphasized that **any IOFDS activity should add value to existing initiatives**, remain achievable with limited resources, and be developed collaboratively by interested IOFDS participants.

3.4.1.5 Input from Dr. T. V. Gopal, Mahindra University

T. V. GOPAL provided input to Theme 1 using the presentation file, “[4. Gopal Medical Informatics Standards.pdf](#).”

Gopal emphasized the importance of standardization in **medical informatics**, highlighting interoperability, semantic consistency, data quality, patient safety, privacy and security, cross-border healthcare, research, AI and analytics, regulatory compliance, and trust and scalability as key requirements for Medical Data Spaces.

He noted that **no single global medical-informatics standard can solve the Data Space problem**. Instead, Medical Data Spaces require a **composable standards architecture**, combining different standards at different layers. As examples, he referred to governance and trust standards such as ISO 27001/27701, integration and workflow through IHE, and data exchange through HL7 FHIR.

Gopal also pointed out that healthcare organizations face a large and complex landscape of technical standards, regulations, and guidance documents, making implementation and compliance difficult and costly.

In conclusion, he proposed that IOFDS consider establishing a **focus group on medical informatics and standards**, taking advantage of the forum’s ability to bring together participants from different standardization communities and regions.

3.4.1.6 Discussion

3.4.1 Discussion

1. Role of IOFDS in Cross-SDO Collaboration

Mano opened the discussion by asking what IOFDS could practically do to support collaboration across different standards-development communities. As an example, he referred to ongoing **IEEE P3800.2** discussions on how a Data Trading System operator could discover and connect to Data Spaces, including centralized repository, crawling, peer-to-peer, and other possible architectural approaches.

He noted that collaboration across SDOs is difficult because organizations such as **ISO/IEC, IEEE, CEN-CENELEC, and ETSI** have different participation rules, procedures, and liaison mechanisms. He therefore raised the question of whether IOFDS should create activities of its own or primarily facilitate information exchange and coordination among existing standardization activities.

2. Participation in International Standardization

Xiaomi An commented that participation in ISO/IEC activities generally requires nomination through national bodies and that participation conditions, including membership costs, differ by country. She noted that more open mechanisms could help broaden participation from industry and academia.

3. Transparency and Coordination

Lars Nagel emphasized **transparency and coordination rather than duplication**. He noted that many Data Space-related standardization activities are already connected and should be presented as a coherent landscape rather than as separate competing families.

He suggested that IOFDS could add particular value when genuinely new cross-cutting issues emerge, by bringing together experts from the relevant standards communities and helping identify an appropriate path for further work.

4. Role of IOFDS Going Forward

In closing, Mano summarized that IOFDS should continue to provide a place for **early information sharing and coordination across SDO activities**, particularly before members initiate new standardization work. This would allow the community to understand the purpose of new activities, identify related work, and avoid unnecessary duplication.

3.4.2 Theme 2: AI Spaces for international collaboration

3.4.2.1 Moderator: Masaru Dobashi

Masaru DOBASHI, Moderator, introduced **Theme 2: “AI Spaces for International Collaboration.”**

He noted that the concept of an **AI Space** is still relatively new and that there is not yet sufficient consensus on its definition or scope.

He explained that the purpose of the session was therefore to exchange views and explore how AI Spaces might be understood and developed in an international collaboration context. He also noted that four short inputs had been prepared to initiate the discussion.

3.4.2.2 Input from Taka Matsutsuka, Fujitsu

Taka MATSUTSUKA provided input to Theme 2 using the presentation file, “[1. Taka 改 20260916-DSW2026-Panel-Fujitsu.pdf](#).”

He emphasized that **trust in an AI Space depends on how the AI agent itself can be trusted**, and raised four unresolved questions. These concerned whether an agent’s past experience should affect its trustworthiness, whether qualifications or authority can be delegated to an agent, whether an **AIBOM** accurately reflects the agent actually running, and how much of an agent’s activity should be recorded and disclosed for audit purposes.

Matsutsuka noted that these issues may go beyond conventional Data Space trust mechanisms and require further consideration as AI agents become active participants in cross-organizational ecosystems.

3.4.2.3 Input from Kenji Hiramoto, IPA/AISI

Kenji HIRAMOTO provided input to Theme 2 using the presentation file, “[2. Hiramoto 260916IOFDS AI Spaces.pdf](#).”

Hiramoto described an **AI Space** as a collective of many AI agents that can access systems and databases, combine data and processing functions, and produce outputs. He referred to mechanisms such as **MCP, A2A, and MHS** as possible elements for interaction among AI agents.

He also questioned whether using AI agents is always the appropriate approach. Since AI agents may consume significant resources and may not always provide reliable answers, he suggested that **AI-generated code and conventional systems**, such as those using Linked Data Event Stream (LDES), should also be considered where they can provide more deterministic results.

For large-scale AI Spaces involving many agents, Hiramoto emphasized the importance of **AIBOM, provenance information, activity logs, and governance mechanisms** to understand and manage what each agent is doing.

Finally, he raised an international standardization issue: important AI-agent technologies and protocols are increasingly being developed first by private companies and open communities. He suggested that the relationship between such emerging specifications and traditional standards developed through organizations such as ISO, IEEE, and other SDOs will become an important issue for international collaboration on AI Spaces.

3.4.2.4 Input from Anil Turkmayali, IDSA

Anil TURKMAYALI provided input using the presentation file, “[3. Anil 16-09-2026IDSA-Data-Spaces-and-AI-IOFDS-Tokyo-2026.pdf](#).”

Turkmayali introduced IDSA’s position paper on **trustworthy Agentic AI participation in Data Spaces**. He emphasized that trustworthy agent participation does not require a new infrastructure: existing Data Space mechanisms for identity, policies, negotiation, usage control, and auditability can also be applied to AI agents. Trust should therefore be treated as a precondition for agent participation rather than as an outcome.

He explained that an AI agent can be treated as another Data Space participant, following the existing sequence of **discovery, identification, evaluation, negotiation, consumption, and proof**. However, while the Data Space foundation is increasingly standardized, important gaps remain at the agent layer. These include how an agent declares on whose behalf it acts, how AI models and their tests are governed as assets, and how authority and delegation are transferred between organizations and downstream agents.

Turkmayali stressed that these gaps are **global rather than region-specific**. He invited further contributions to the IDSA Task Force on Data Spaces and AI, whose public backlog includes work on AI/Data Space reference architecture, governance and usage-control policies, Agentic AI blueprints, AI metadata and catalogues, and an international testbed for AI Data Spaces.

3.4.2.5 Input from Noboru Koshizuka, The University of Tokyo

Noboru KOSHIZUKA provided input to Theme 2 without presentation materials.

Koshizuka noted that the concept of an **AI Space** is still at an early stage and does not yet have a precise definition. As a broad working concept, he described it as a **distributed and federated digital system involving AI agents**, while stressing that its required functions, qualities, and risks still need to be explored.

He emphasized that the capabilities and future possibilities of AI cannot yet be fully anticipated, and therefore advocated an **agile, step-by-step approach** rather than attempting to define a complete AI Space architecture in advance. As an initial step, his research group is developing **F-RAG (Federated RAG)** and experimenting with connecting AI agents to Data Spaces through mechanisms such as **MCP and A2A**.

Koshizuka described ongoing implementations in which an AI agent accesses distributed Data Space resources while incorporating processes such as negotiation, authorization, and data retrieval. He stressed the importance of validating concepts through **running implementations**, including experiments involving access to multiple data sources in supply-chain scenarios.

For international collaboration, he proposed starting with **cross-border experiments, use-case development, and requirements analysis**. Based on those practical results, the community could then address interoperability and consider shared code, open-source implementations, and common mechanisms for communication between AI agents and Data Spaces.

3.4.2.6 Discussion

1. Role of Data Space Connectors for AI Agents

Mano asked why Data Space connectors would still be needed if AI agents could communicate directly through protocols such as MCP.

Koshizuka explained that MCP alone does not provide sufficient functions such as **access control, authorization, and trust management**. Existing Data Space connectors can complement agent communication by providing these functions.

Nagel added that AI-agent protocols such as MCP and A2A could be viewed as part of the **data plane**, while Data Space technologies could provide the **control plane** for authorization, identity, policies, and governance.

2. Can AI Agents Create Connector Functions?

Gopal asked whether AI agents themselves could dynamically create connectors to link heterogeneous systems.

Koshizuka replied that agents could potentially generate code that emulates connector functions. However, he emphasized that the **external specifications and protocols** are more important than the particular implementation of the connector.

3. Intellectual Property and Accountability

September 2026, Isamu Yamada, Secretary of IOFDS

Ramsey raised a more fundamental concern: even if autonomous agent collaboration is technically possible, organizations may hesitate to allow agents to access and combine their data.

He highlighted questions concerning **ownership, intellectual property, accountability, and the rights to new discoveries** when agents combine information from multiple data sources. In particular, unexpected combinations could generate valuable or potentially patentable results that were not anticipated when data access was originally permitted.

Nagel responded that these are precisely the kinds of issues Data Spaces are intended to address through **usage control, provenance, data lineage, trusted negotiation, and accountability**. He suggested that AI could become a major use case for Data Spaces because automated agent interactions require machine-readable policies and control mechanisms.

Ramsey nevertheless stressed the problem of the “**unknown unknown**”: it may be impossible to anticipate in advance what new insights agents will generate by combining distributed data. He noted that this issue requires legal and business consideration in addition to technical solutions.

4. Next Steps for AI Space Discussion

Dobashi summarized that different communities already have related but not identical concepts of an **AI Space**. Rather than attempting to define the concept immediately, he proposed collecting each community’s **problem statements and expectations for future AI models and international collaboration** as a basis for further discussion and clarification within IOFDS.

3.5 Sponsor session

3.5.1 Miki Kanno, NTT Data Group

Miki KANNO, NTT DATA Group Corporation, delivered a Sponsor Presentation using the presentation file, “[D3_1630_SP1_20260916_DataSpacesWeek_SponsorNTTDATA_MikiKanno.pdf](#),” entitled “**Data Spaces at Scale: Creating the Social Data Platform for an AI-Driven Society.**”

Kanno introduced NTT DATA’s involvement in more than **30 Data Space initiatives across 13 industries** in Japan and Europe, noting that discussions are increasingly shifting from policy and technology toward practical business and management transformation.

She presented NTT DATA’s **Social Data Platform Concept**, which combines enterprise, distributed, and personal data platforms with trusted data exchange and AI orchestration. She also highlighted NTT DATA’s contribution to the **Ouranos Ecosystem** and its development of shared capabilities for cross-company and cross-sector data collaboration.

Looking ahead, Kanno introduced **Secret Processing** for secure use of sensitive data and the **AI-Sovereign Data Platform (working title)**, which enables AI agents to access only authorized distributed data while enforcing usage rights and maintaining auditable usage histories.

In conclusion, she emphasized creating value by **connecting data rather than keeping it siloed**, combining Data Spaces, secure processing, and AI for trusted data utilization at societal scale.

3.6 Officer Election

Hiroshi MANO explained the IOFDS policy and procedure for officer elections. He noted that the Chairperson and Secretary are elected at each in-person meeting and serve from the end of the meeting at which they are elected until the end of the next in-person meeting.

Motion: Approval of IOFDS Officers

Move to approve the IOFDS officers as follows:

- **Chairperson:** Masaru Dobashi
- **Vice Chair:** Lars Nagel
- **Secretary:** Isamu Yamada

Moved by Hiroshi Mano

Seconded by Dominik Rohrmus

The motion was approved.

3.7 Future Venue

September 2026, Isamu Yamada, Secretary of IOFDS

Mano referred to **P&P 8.1, In-Person Meeting**, which provides that IOFDS in-person meetings are held at least once every six months, with the venue and organizer decided by mutual agreement of the members.

Dr. T. V. Gopal expressed Mahindra University, Hyderabad's willingness to host the **9th IOFDS in-person meeting**. It was agreed that a formal proposal from Mahindra University should be submitted through the IOFDS mailing list in response to the open call for nominations.

Participants also noted the importance of considering the schedule of other international events and geographical balance when selecting the next venue.

For the **financial plan**, proposals should indicate the expected hosting arrangement, such as whether participation fees would be required or whether the meeting would be organized on a voluntary basis.

The following motion was approved:

Approved to open the call for proposals for the next meeting as follows:

- Post the nomination on the **IOFDS mailing list**.
- The nomination period ends at the **end of October 2026**.
- The proposal shall incorporate:
 - Local host
 - Venue
 - Date
 - Financial plan
 - Other relevant information

Moved by Masaru DOBASHI

Seconded by Nobuyuki OGURA

Approved by unanimous consent.

3.8 Decision and wrap-up

Standardization Activities

Hiroshi MANO summarized the discussion on international standardization activities and proposed recording the following statement as an IOFDS consensus. Participants briefly discussed whether a formal motion was necessary. Following a straw poll, it was agreed to proceed with a motion.

Motion: Collaboration on International Standardization Activities

Move to approve the following statement as the IOFDS consensus:

- The IOFDS recommends that members share information with the IOFDS and request collaboration on international standardization activities.
- However, this is limited to cases where the members do not violate the rules of the respective international standardization activities in which they participate.

- **Moved by** Masaru Dobashi

- **Seconded by** Kohtaro Asai

The motion was approved.

Following the approval, Dobashi asked whether the IOFDS Policy and Procedures (P&P) should be amended to reflect this agreement. Mano responded that an amendment was not necessary, as the statement represented an agreement or consensus rather than a change to the P&P.

3.9 Closing remarks

Mano confirmed that all agenda items had been completed and asked whether there was any new business. With no further business and no objection to adjournment, he declared **the meeting adjourned at 17:20 JST on September 16, 2026**, and thanked all participants for their contributions.