

What is a Data Space?



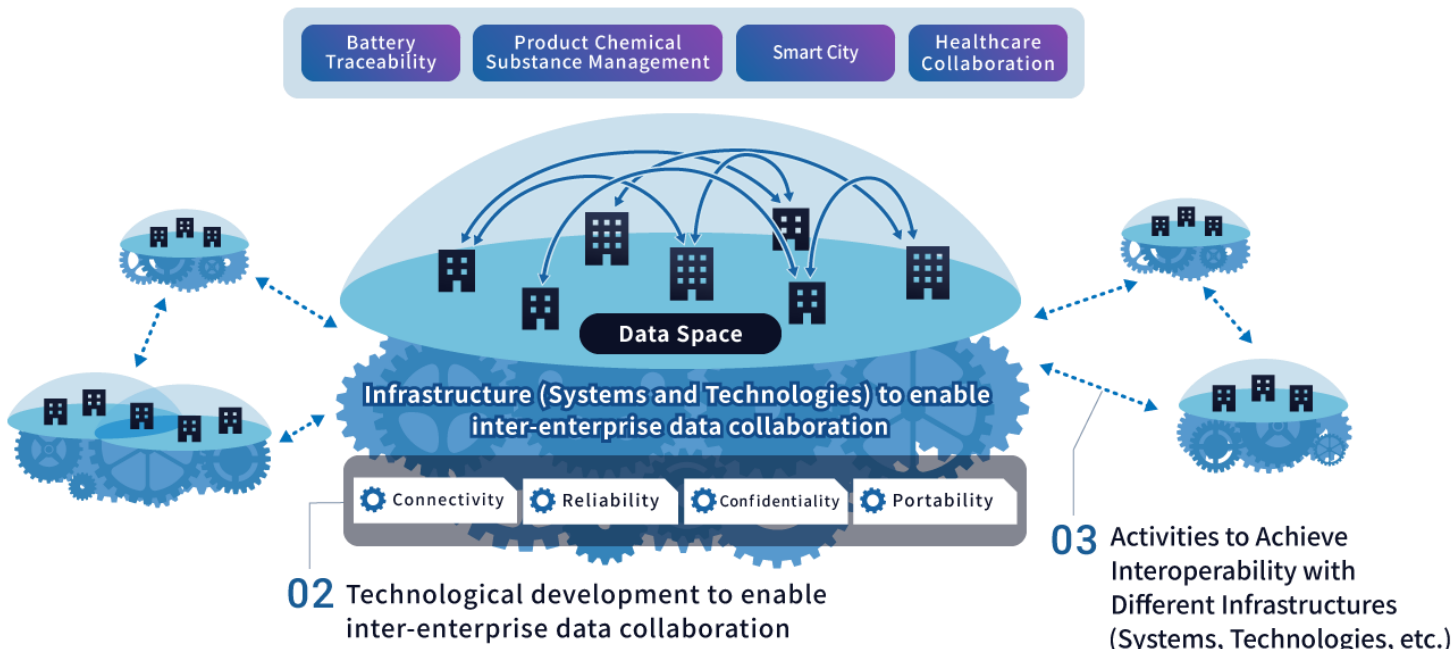
Data is key to address organizational challenges, and improve market competitiveness. Furthermore, in recent years, there has been a growing trend of sharing data between organizations in order to solve problems and add value to industry and society.

Data Spaces help to create a fluent and trustworthy data sharing based on a technology ensuring mutual trust, for building new economy and social exchanges. Rather than aggregating data into a single system, Data Spaces provide a mechanism for connecting systems owned by multiple organizations. This will ensure the "data sovereignty" of data providers and promote data utilization.

NTT DATA is working towards the social implementation of Data Spaces in various countries and industries, based on its accumulated know-how in data utilization and experience in building and operating cross-industry collaborative platforms.

NTT DATA's Activities for Social Implementation of Data Spaces

01 Co-creation Activities for Use Cases Development



01 Co-creation Activities for Use Cases Development

Data Spaces will develop as a community effort, with the involvement of parties such as industry associations or various related stakeholders.

NTT DATA and its customers identify issues related to data linkage between industries or organizations. This way the needs for Data Spaces can be framed, and NTT DATA can contribute to provide comprehensive support from creation to operation.

02 Technological Development to Enable Inter-Organizations Data Collaboration

Various organizations participate in this project, and NTT DATA is developing technologies that emphasize four characteristics of data to realize a society in which data can be safely and actively used and linked.

- **Connectivity:** various organizations' systems are interconnected to each other, and data can be sent and received between parties.
- **Reliability:** organizations can send and receive data after verifying its authenticity and agreeing on who can use what data, how and when.
- **Confidentiality:** Data can be used without compromising the required confidentiality rules set by each organization.
- **Portability:** The data can be used by each player, while still being distributed in a decentralized fashion.

03 Activities to Achieve Interoperability with Different Infrastructures (Systems, Technologies, etc.)

Decentralized architectures require technical standardization to interconnect different infrastructures (systems, technologies, etc.) to exchange data.

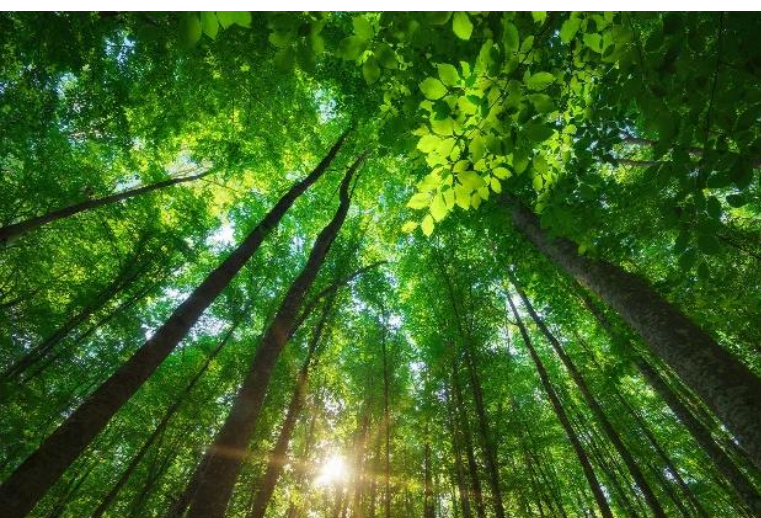
Therefore, NTT DATA actively participate in standardization activities, in particular for connectors, to ensure interoperability.

Use Cases

Data Spaces are the linchpin to solve issues between industries and organizations through data collaboration.

For example, the following use cases particularly showcase the need for data exchange between multiple kind of actors.

NTT DATA can support a wide range of customers according to their industry challenges.



CO2 Traceability

Throughout a Product Life Cycle, from its production to its disposal, many actors interact and contribute to its carbon footprint. This is a good opportunity for Data Spaces to facilitate data exchanges throughout the supply chain and calculate CO2 emissions more precisely.

Supply and Demand Optimization

Markets usually benefits from better knowledge of supply and demand, but also fear sharing this data which can be strategic. Data Spaces will help keep the data confidential while allowing optimal supply and demand adjustments.



Project Examples

Co-Created Use Cases



Battery Traceability Platform

NTT DATA provides an electric vehicle battery traceability platform for the Ouranos ecosystem. It is the first use case of the public / private partnership initiative led by the Japanese Ministry of Economy, Trade and Industry for electric vehicles.

The aim is to develop next-generation information infrastructure to be used widely in various industries in the future, even outside Japan.

PPDS (Public Procurement Data Spaces)

NTT DATA is participating in various development projects in Europe. The PPDS's main objective is to create an integrated space for all public procurement data in the EU, combined with an analytics toolset using emerging technologies, which could serve as a common platform for administrative services, companies and citizens in Europe. The other active projects are Data Spaces for mobility, tourism, industry and agriculture.



Examples of Activities

Co-Created Use Cases



Dataspace4Health: Revolutionizing Healthcare with Secure Data Sharing

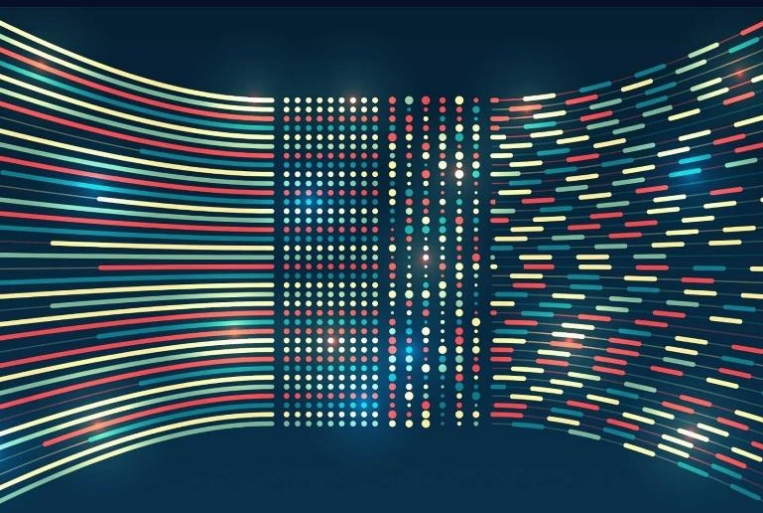
With Dataspace4Health, NTT DATA Luxembourg contributed to create a secure environment for health data exchange, enabling new medical research and discoveries while protecting patient privacy.

feDerated nEtnetwork of pLatforms for Passenger and freight Intermodality

As part of the European DELPHI projects, NTT DATA helps integrate passenger and freight transport into a single federated data system. This Data Space-driven approach provides secure data, governance, regulatory scheme enabling multiple use cases.



Inter-Organizations Data Linkage



Weave Reliable Connectivity Technologies into the Social Infrastructure

NTT DATA is heavily contributing to Japan's Ouranos Ecosystem, which enables data cooperation between multiple organizations. It also contributes to the development and dissemination of open-source software, which has a proven track record of adoption in European Data Spaces.

Research and Development to Ensure Confidentiality and Portability

To facilitate data-driven innovation and collaboration across organizations, NTT DATA is developing confidential data processing technology and virtual data portability technology with the support of R&D projects led by NEDO (Japan's New Energy and Industrial Technology Development Organization). Demonstrations for advanced requirements on data exchanges, such as manufacturing, energy or healthcare industry are being conducted.



Interconnecting Systems



Promoting Cooperation as IDSA Ambassador

As an ambassador for the International Data Spaces Association (IDSA), one of the major representative bodies developing connector technical specifications and standards, NTT DATA participates in international roundtable discussions and contributes to architecture design and standardization activities.

Testbed Project

While developing Data Spaces and building their knowledge, companies and research institutes need hands-on operations.

For this purpose, the University of Tokyo is promoting a project called "International Testbed for Dataspace Technology." NTT DATA has been participating in this activity early on, and is contributing to open innovation by sharing technological knowledge and experience.



Thought Leaders

NTT DATA is fortunate to have a global community of brilliant minds contributing to shape the future of Data Spaces. They work with customers to solve issues related to inter-organizations data collaboration and data utilization.



Innovation Technology Department,
NTT DATA Group Corporation, Japan
Masaru Dobashi

Executive IT Specialist / Senior Specialist. He has been engaged in research and development of systems utilizing parallel distributed processing and open-source software, and system development. In recent years, he got involved in research, technology development, and social implementation of secure data utilization and inter-organizations data cooperation.



Competence Center Manager R&D Engineering,
NTT DATA Europe & LATAM, Germany
Tobias Häuptle

With extensive experience in leading R&D advisory services, Tobias possesses a unique combination of technical prowess and strategic vision. Tobias is known for his profound insights, commitment to excellence, and dedication to advancing the frontiers of technology and business.



Innovation Department and Digital Transformation
Office lead, NTT DATA Romania
Bojan Mrazovac

Bojan particularly focuses on innovations for Data Safety, Privacy and Security protection, Smart Cities and Society 5.0, leveraging embedded or cloud technologies, signal processing, data mining, pattern recognition... His research activities resulted in more than 60 scientific papers published in prestigious journals and conference proceedings, including five patents.



Manager, International Organizations ,
NTT DATA Europe & LATAM, Spain

Mario Cabellos

Computer science engineer. Mario leads NTT DATA's strategic and policy strand at European level for International Organizations which is derived from the European Commission strategy for European Data Spaces and the Simpl Middleware. He coordinates NTT DATA's Blended Service Offering combining capabilities from Sectoral and Technology teams that covers the whole spectrum of initiatives in the context of Data Spaces and Interoperability.



Delivery Manager,
NTT DATA Europe & LATAM, Spain

Carlos Mazo

Computer science engineer and master's in management. Experienced leader currently responsible for the Interoperability & Data Spaces practice in Spain; Carlos is expert in team management, Data Space & semantics assets design, project portfolio management and service value offering design for Spain.

Publications

Inter-Organizations Data Linkage with Data Spaces

- ✓ Current state of inter-organizations data linkage
- ✓ Future envisioned through Data Spaces
- ✓ Examples of initiatives by NTT DATA

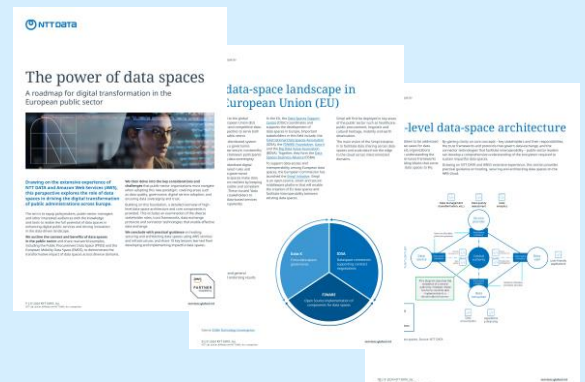


English version coming soon.

The Power of Data Spaces for the Future of Digital Public Services

In collaboration with Amazon Web Services (AWS), the whitepaper provides insights into how Data Spaces can drive the innovation of digital public services. This whitepaper explores:

- ✓ The role of Data Spaces in transforming public services across Europe
- ✓ Real-world examples
- ✓ Key considerations for data quality, governance, and trust in the digital landscape
- ✓ A detailed look at high-level Data Space architecture, stakeholder roles, and best practices for implementation



<https://benelux.nttdata.com/insights/whitepaper/s/the-power-of-data-spaces>

The Imperative of International Cooperation in Health-Related Data Spaces

Enhanced Data Sharing

International cooperation allows for better data sharing.

Standardization

Establishing common standards for data collection and sharing.

Privacy and Security

Addressing privacy concerns and ensuring data security Innovation and Research: Collaborative efforts can accelerate medical research and innovation

Policy and Governance

Developing international policies and governance frameworks

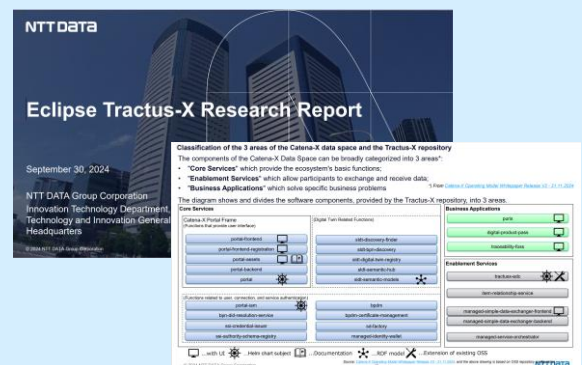


<https://www.linkedin.com/pulse/imperative-international-cooperation-health-related-data-spaces-case-dtiwc>

NTT DATA Unveils a Report on Tractus-X for Automotive Industry Data Spaces

NTT DATA has analyzed the Eclipse Tractus-X project, and the report summarizes the structure and development status of each repository as well as the outline and features of the software components provided in each repository. The report presents:

- ✓ Background and Purpose of the Survey
- ✓ Overview of Tractus-X
- ✓ Repository Configuration for Tractus-X
- ✓ Main Repository Details



<https://www.nttdata.com/global/en/news/press-release/2024/september/ntt-data-unveils-the-report-on-tractus-x-for-automotive-industry-data-spaces>

News

October 8, 2024

[NTT DATA and Gaia-X Expand Global Reach with Deployment of Gaia-X Digital Clearing House in Japan](#)

September 30, 2024

[NTT DATA Unveils a Report on Tractus-X for Automotive Industry Dataspaces](#)

March 8, 2024

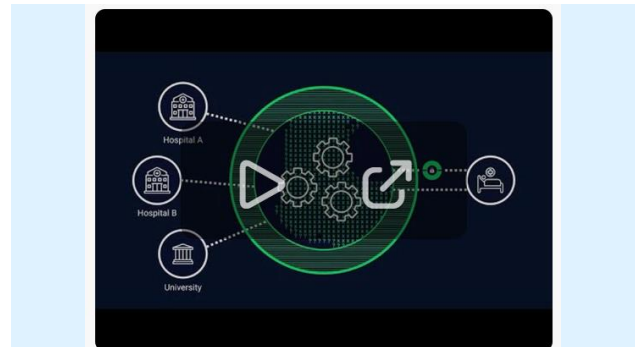
[NTT DATA and Promethium Announce Strategic Partnership to Accelerate Data Fabric Adoption in North America](#)

Related videos



30-Sec Tech Talk ~ What is Data Space?

<https://youtu.be/VpJtUv4x6Uo>



NTT DATA's Solution for Secure Inter-Organizations Data Collaboration

<https://youtu.be/vnt5bjZENPY>

