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DATA SPACES AND GOVERNANCE

Marko Turpeinen 28.9.2023

1001 Lakes - Enabling collaborative data ecosystems

않 가 가 LAKES

1001 Lakes was founded to facilitate data ecosystems by helping organizations to manage and share data more securely and efficiently, and to enable new insights and datadriven services benefiting everyone.



DATA RULEBOOK

Sitra Fair Data Economy Rulebook is designed to guide forming of trust-based data sharing networks with a common mission, vision and values. 1001 Lakes is the main author of the new Sitra Rulebook 2.0 version.



DATA ECOSYSTEMS

1001 Lakes Oy is focused on enabling data ecosystems and building data spaces and is a trusted advisor in data ecosystem matters across industries.



INTERNATIONAL DATA SPACES ASSOCIATION

IDSA MEMBER

1001 Lakes is an actively contributing member in international data ecosystem & data spaces initiatives involving major global companies. We are co-leading the IDSA Rulebook Working Group.

Data Governance in Europe





Source: TOWARDS A HOLISTIC EU DATA GOVERNANCE, Sitra, 2023

Layered model for interoperability





- Intra data space interoperability, between parties within a single data space instance
- Inter data space interoperability, between multiple data space instances at each of the functional levels

DSSC Glossary (v.1.99, Sep 26 2023) Some definitions

Term	Description	
Data space	A distributed system defined by a governance framework that enables secure and trustworthy data transactions between participants while supporting trust and data sovereignty. A data space is implemented by one or more infrastructures and enables one or more use cases .	
Data space participant	A party that has committed to the governance framework of a particular data space and may have one or more roles in it.	
Data space role	A distinct and logically consistent set of responsibilities within a data space , that encompass associated rights and duties required to perform specific tasks, and that are designed to be fulfilled by one or more participants .	
Data space governance	The processes to develop, maintain and enforce the governance framework of a particular data space.	
Data space governance framework	The set of principles, standards, policies (rules/regulations), agreements and practices that apply to the governance, management, and operations (including business and technology aspects) of a data space as well as to the enforcement thereof, and the resolution of any conflicts.	
Data space rulebook	The documentation of the data space governance framework for operational use. The rulebook can be expressed in human-readable and machine-readable formats.	
Data space governance authority	The data space participant that is accountable for creating, developing, operating, maintaining and enforcing the governance framework for a particular data space, without replacing the role of public enforcement authorities.	

Data space instance governance

Dedicated data space authority

Executes and implements the governance practices and rules of a data space instance. Oversees data space functions and the rules.

Data ecosystem governance

Data sharing networks and data marketplaces

Defines the rules for the data space instance. Creates the intra data space trust between collaborating organizations. Complements standardization and regulation focusing on business-driven rules. Defines the inter data space interoperability practices.

Domain-specific soft infrastructure governance

Sector-specific principles and resources

Establishes sector-specific data space principles and mechanisms including semantic interoperability and domain-specific regulation. Leaves room for geographical differences while supporting maximum interoperability.

Generic soft infrastructure governance

Neutral building blocks and core services

Brings all the generic data space building blocks and concepts together, defines the legal basis and creates the common framework on which all data spaces are built.

Industrial Health Energy Agriculture Green deal Mobility Financial administration Skills Spaces

Data spaces as ecosystem

Nx

Nx

1x

Data spaces based on common design principles enable a dynamic, secure and seamless flow of data/information between parties and domains as well as entirely new services for users, based on enhanced transparency and data sovereignty. A new user behavior and digital culture arises, as users learn to play by the rules and use data (both their own and other users' data) in an ethical way. Data spaces as federation enable multiple participants to discover data resources across underlying platforms and their administrative domains.

Synthesis of building blocks to data spaces

As all participants implement the same minimal set of functional, legal, technical and operational agreements and standards, they can interact in the same manner, no matter what data space they are operating in. Key building blocks and roles will be part of each data space. Some elements of the building blocks will be similar for multiple spaces and will therefore be part of the general soft infrastructure. Other elements of the building blocks will need to be customised to work for sector-specific data spaces.

Soft Infrastructure and neutral building blocks

The soft infrastructure provides a level playing field for data sharing and exchange. It is made up of technology-neutral and sector-agnostic agreements and standards specifying how organisations and individuals can participate in the data economy and how they need to act and behave in compliance with commonly agreed rules and directives.

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DSSC Blueprint (draft 0.5) Data Space Building Blocks

Organisational & Business Building Blocks			
Business	Governance	Legal	
Use case accelerator	Data governance framework	Regulatory compliance Contractual framework	
Data product definition Collaborative business models Data intermediary	Roles and responsibilities		
			Decision-making, rules and policies (working title)
Data Interoperability	Data Sovereignty & Trust	Data Value Creation	
Data Models & formats	Access & usage policies and control	Data, Services and Offerings descriptions	
Data Exchange	ldentity Management	Publication & Discovery	
Provenance & traceability	Trust	Marketplaces & Usage Accounting	
Technical Building Blocks			

Building trust in Data Spaces

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IDSA as reliable base for data spaces

Different policies in data spaces

Data Space Governance Authority

The Data Space Governance Authority is responsible for

- establishing the policies and rules of the data space
- issuing membership credentials
- regulating the lifecycle of membership
 - participant discoverability
 - issuing of membership credentials
 - verification services for membership proofs

The Data Space Governance Authority can provide other optional services:

- observability and auditing
- brokering and marketplaces
- providing vocabularies
- other services required by the data space members.

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Variants for Data Space Governance Authorities

Specifying the operational agreements for data space instances – SITRA Rulebook

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Designed to guide **forming of trustbased data sharing networks** with a common mission, vision and values.

Rulebook template includes

- checklists that cover business, technology, security, legal and ethical dimensions
- data ecosystem design tools
- code of conduct to establish a common understanding of ethical rules
- contractual framework

"Intra" and "Inter" data space interoperability

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Interoperability (legal, organizational, semantic, technical) across data spaces is highly desirable, but complex to implement

Common governance frameworks and models to define the rules for data space instances will help in achieving inter data space interoperability

BACKING DATA ECOSYSTEMS

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