

# TOWARDS A HOLISTIC EU DATA GOVERNANCE

Taking stock of the progress of the EU Data Strategy and proposals

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The European Union's ambitious data strategy aims to establish the EU as a leader in a data-driven society by creating a single market for data while fully respecting European policies on privacy, data protection, and competition law. To reach the bold objectives of the strategy, Europe needs more practical business cases where data flows across the organisations.

Reliable data sharing requires new technical, governance and business solutions. Data spaces cater for these needs by offering soft infrastructure to enable trustworthy and easy data flows across organisational boundaries. In this working paper, we take a deep dive into the governance questions related to data sharing and data spaces.

**Sitra working paper**

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**Towards a Holistic EU Data Governance – Taking stock of the progress of the EU Data Strategy and proposals**

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Layout: PunaMusta Oy

ISBN 978-952-347-352-2 (PDF) [www.sitra.fi](http://www.sitra.fi)

ISSN 2737-1042 (online publication)

Sitra working papers provide multidisciplinary information about developments affecting societal change. Working papers are part of Sitra's future-oriented work conducted by means of forecasting, research, projects, experiments and education.

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# Foreword

The trustworthy sharing and use of data is at the heart of the vision for a fair data economy in the European Union. Effective data sharing between organisations enables the development of better products and services and creates a tremendous potential for increasing work productivity. Whether it is AI, healthcare or port logistics, data is already the most important raw material for most industries, services and societies.

The European Commission is implementing a new regulatory framework, and many new and existing bodies at the EU level, such as the European Data Innovation Board, which are guiding data sharing. At the national level, existing agencies such as competition, telecoms and data protection authorities or newly established bodies will oversee EU data laws. Eventually, data sharing between different parties will also require subject-specific rules, architectures and standards to complement legislation.

For smaller companies, this level of complexity can be hard to navigate. It becomes even more complicated as all three levels - EU bodies, member states and data spaces - are included. For businesses that want to participate in data sharing, it shouldn't be necessary to understand all the complexities. Ideally, complying with the data sharing rules should be effortless, even automated.

Many issues will have to be resolved by national authorities while implementing the regulations. This entails the risk of divergent interpretations of the regulations in different member states and a higher burden for organisations wanting to share data or operate in multiple member states.

It is essential for Europe to ensure interoperability and a fair playing field for the data economy while maintaining flexibility for domain-specific solutions.

In this study, Sitra partnered with the Belgian association aNewGovernance in an attempt to assess data governance. Through interviews, we learned that Spain, for example, has marched ahead and appointed a Chief Data Officer (CDO) to bring about a seamless national implementation. Finland was number one in the EU's Digital Economy and Information Society Index (DESI) in 2023 and has been taking decisive steps to boost the data economy, for example, by establishing a mobility data space. Front runners such as the Netherlands have launched several data spaces. However, even these advanced nations are facing difficulties in implementing the new legislation. Based on the analysis, we recommend steps that the European Commission and member states should take to achieve a world-class governance of the data economy in the EU.

We would like to thank our partner aNewGovernance for their intensive and passionate work on the topic, as well as the European Commission and the stakeholders that participated in the workshops and round-table sessions we organised to present and receive feedback on the findings of our study.

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# Summary

The European Union's ambitious data strategy aims to establish the EU as a leader in a data-driven society by creating a single market for data while fully respecting European policies on privacy, data protection, and competition law. To achieve the strategy's bold aims, Europe needs more practical business cases where data flows across the organisations.

Reliable data sharing requires new technical, governance and business solutions. Data spaces address these needs by providing soft infrastructure to enable trusted and easy data flows across organisational boundaries.

Striking the right balance between regulation and innovation will be critical to creating a supportive environment for data-sharing business cases to flourish. In this working paper, we take an in-depth look at the governance issues surrounding data sharing and data spaces.

Data sharing requires trust. Trust can be facilitated by effective governance, meaning the rules for data sharing. These rules come from different arenas. The European Commission is establishing new regulations related to data, and member states also have their laws and authorities that oversee data-sharing activities. Ultimately, data spaces need local rules to enable interoperability and foster trust between participants. The governance framework for data spaces is called a rulebook, which codifies legal, business, technical, and ethical rules for data sharing.

The extensive discussions and interviews with experts reveal confusion in the field.

People developing data sharing in practice or otherwise involved in data governance issues struggle to know who does what and who decides what. Data spaces also struggle to create internal governance structures in line with the regulatory environment. The interviews conducted for this study indicate that coordination at the member state level could play a decisive role in coordinating the EU-level strategy with concrete local data space initiatives.

The root cause of many of the pain points we identify is the problem of gaps, duplication and overlapping of roles between the different actors at all levels. To address these challenges and cultivate effective governance, a holistic data governance framework is proposed. This framework combines the existing approach of rulebooks with a new tool called the rolebook, which serves as a register of roles and bodies involved in data sharing. The rolebook aims to increase clarity and empower stakeholders at all levels to understand the current data governance structures.

In conclusion, effective governance is crucial for the success of the EU data strategy and the development of data spaces. By implementing the proposed holistic data governance framework, the EU can promote trust, balanced regulation and innovation, and support the growth of data spaces across sectors.

# Tiivistelmä

Euroopan unioni pyrkii datastrategiallaan data-vetoisen yhteiskunnan suunnannäyttäjäksi. Strategialla pyritään luomaan datan sisämarkkinat ja noudattamaan samalla täysimääräisesti EU-politiikkaa, joka koskee yksityisyyden suojaa, tietosuojaa ja kilpailulainsäädäntöä. Jotta strategian kunnianhimoiset tavoitteet saavutetaan, Eurooppa tarvitsee enemmän käytännön liiketoimintatapauksia, joissa data liikkuu helposti organisaatioiden välillä.

Datan jakaminen edellyttää uusia teknisiä, hallinnollisia ja liiketoiminnallisia ratkaisuja. Uudet ja kehittyvät digitaaliset tietoaueet eli data-avaruuudet vastaavat näihin tarpeisiin. Data-avaruuudet tarjoavat datan liikutteluun pehmeän infrastruktuurin, joka mahdollistaa luotettavan ja helpon tiedonkulun yli organisaatorajojen.

Jotta datapohjaisella liiketoiminnalla on mahdollisuudet onnistua, uusien ratkaisujen innovoinnin ja niitä koskevan sääntelyn välille on löydettävä tasapaino. Tämä työpaperi perehtyy datan jakamiseen ja data-avaruuksiin liittyviin hallintokysymyksiin.

Datan jakaminen edellyttää luottamusta. Luottamusta voidaan rakentaa tehokkaalla hallinnolla eli datan jakamista koskevilla säännöillä. Nämä säännöt tulevat eri tasoilta. Euroopan komissio on parhaillaan uudistamassa sen datalainsäädäntöä. Myös jäsenvaltioilla on omat lait sekä viranomaiset, jotka valvovat datan jakamista. Näiden lisäksi data-avaruuudet tarvitsevat omia paikallisia sääntöjä, joilla taataan ratkaisujen yhteentoimivuus sekä datan jakamiseen osallistuvien tahojen välinen luottamus. Data-avaruuksien hallintokehystä kutsutaan sääntökirjaksi, joka kodifioi oikeudelliset, liiketoiminnalliset, tekniset ja eettiset säännöt datan jakamista varten.

Tätä työpaperia varten käydyt keskustelut ja asiantuntijahaastattelut paljastavat alalla vallitsevan hämmennyksen. Datan jakamista kehittäville tai muulla tavoin datanhallintakysymysten parissa työskentelevillä asiantuntijoilla on vaikeuksia tietää, mitä kenenkin kuuluisi tehdä ja kuka päättää mistäkin. Data-avaruuksille on myös vaikea luoda sääntely-ympäristöä vastaavia sisäisiä hallintorakenteita. Työpaperia varten tehtyjen haastattelujen perusteella jäsenvaltioiden tasolla tapahtuva koordinointi voisi olla keskeisessä asemassa EU-tason strategian ja konkreettisten paikallisten data-avaruusaloitteiden yhteensovittamisessa.

Syynä moniin tämän työpaperin esittelemiin ongelmakohtiin on se, että kaikilla tasoilla, joilla sääntelyä luodaan ja valvotaan, eri toimijoiden rooleissa on puutteita sekä päällekkäisyyksiä. Jotta nämä haasteet tulisivat huomioiduksi ja hallintoa voitaisiin kehittää tehokkaammaksi, ehdotamme ratkaisuksi kokonaisvaltaista datanhallintakehystä. Ehdotetussa mallissa nykyiset sääntökirjat yhdistettäisiin uuteen työkaluun eli roolikirjaan, joka toimisi kokoavana rekisterinä datan jakamiseen liittyville rooleille ja elimille. Roolikirjan tavoitteena olisi lisätä selkeyttä ja antaa kaikille eri tasoilla toimiville sidosryhmille mahdollisuudet ymmärtää nykyisiä datanhallintarakenteita.

Yhteenvetona tässä työpaperissa todetaan, että hallinnon tehokkuus on ratkaisevan tärkeää EU:n datastrategian onnistumisen sekä data-avaruuksien kehittämisen kannalta. Toteuttamalla tässä raportissa ehdotetun kokonaisvaltaisen datanhallintakehysten, EU voi vahvistaa luottamusta, tasapainoista sääntelyä ja innovointia sekä data-avaruuksien kasvua eri aloilla.

# Sammanfattning

EU:s datastrategi syftar till att göra EU till en föregångare när det gäller att bli ett datadrivet samhälle. Syftet är att skapa en inre marknad för data samtidigt som EU:s politik för integritet, dataskydd och konkurrenslagstiftning respekteras fullt ut. För att uppnå sina ambitiösa mål behöver EU fler praktiska affärsfall där data flödar sömlöst mellan organisationer.

Att dela data kräver nya tekniska, administrativa och affärsmässiga lösningar. Nya och framväxande digitala informationsutrymmen, eller dataområden, kommer att tillgodose dessa behov. De tillhandahåller en mjuk infrastruktur för datarörelser, vilket möjliggör tillförlitliga och enkla dataflöden över organisationsgränser.

För att ett datadelningsföretag ska lyckas måste man hitta en balans mellan innovation och reglering av nya lösningar. I detta arbetsdokument undersöks styrningsfrågor i samband med datadelning och datalager.

Dadelning kräver förtroende. Förtroende kan byggas upp genom effektiv styrning, dvs. regler för datadelning. Dessa regler kommer från olika nivåer. Europeiska kommissionen håller på att reformera sin datalagstiftning. Medlemsstaterna har också sina egna lagar och myndigheter för att kontrollera datadelning. Dessutom behöver dataområden sina egna lokala regler för att säkerställa interoperabilitet för lösningar och förtroende mellan de parter som är involverade i datadelning. Ett ramverk för styrning av dataområden kallas en regelbok, som kodifierar de juridiska, affärsmässiga, tekniska och etiska reglerna för datadelning.

Diskussioner och expertintervjuer för detta arbetsdokument avslöjar förvirringen i bran-

sch. Experter som utvecklar datadelning eller på annat sätt arbetar med datastyrningsfrågor har svårt att veta vem som ska göra och besluta vad. Det är också svårt att skapa interna styrningsstrukturer för dataresurser som är i linje med den regulatoriska miljön. Intervjuer för detta arbetsdokument tyder på att samordning på medlemsstatsnivå skulle kunna spela en viktig roll för att förena strategin på EU-nivå med konkreta lokala dataområdesinitiativ.

Anledningen till många av de problem som identifieras i detta arbetsdokument är att det finns luckor och överlappningar i de olika aktörernas roller på alla nivåer av skapande och tillämpning av regler. För att ta itu med dessa utmaningar och förbättra styrningens effektivitet föreslår vi ett omfattande ramverk för datastyrning som en lösning. Den föreslagna modellen skulle kombinera befintliga regelböcker till ett nytt verktyg, en rollbok, som skulle fungera som ett register över roller och organ som är involverade i datadelning. Rollboken skulle syfta till att öka tydligheten och göra det möjligt för intressenter på alla nivåer att förstå de nuvarande datastyrningsstrukturerna.

Sammanfattningsvis dras i detta arbetsdokument slutsatsen att en effektiv styrning är avgörande för att EU:s datastrategi ska lyckas och för utvecklingen av dataområden. Genom att genomföra den holistiska ram för datastyrning som föreslås i denna rapport kan EU stödja förtroende, balanserad reglering och innovation samt tillväxten av dataområden inom olika sektorer.

# 1. Data Governance in Europe

The European data strategy 2020 aims to position the European Union as a forerunner in the data-driven society. The aim is to establish the EU as a single market for data in which data can freely flow across borders and sectors while fully adhering to European policies on privacy, data protection and competition law.

Data spaces will play an important role in reaching the goals of the EU data strategy. Initially, the strategy announced the creation of data spaces in ten key sectors: health, agriculture, manufacturing, energy, mobility, finance, public administration, skills, open science and the Green Deal.

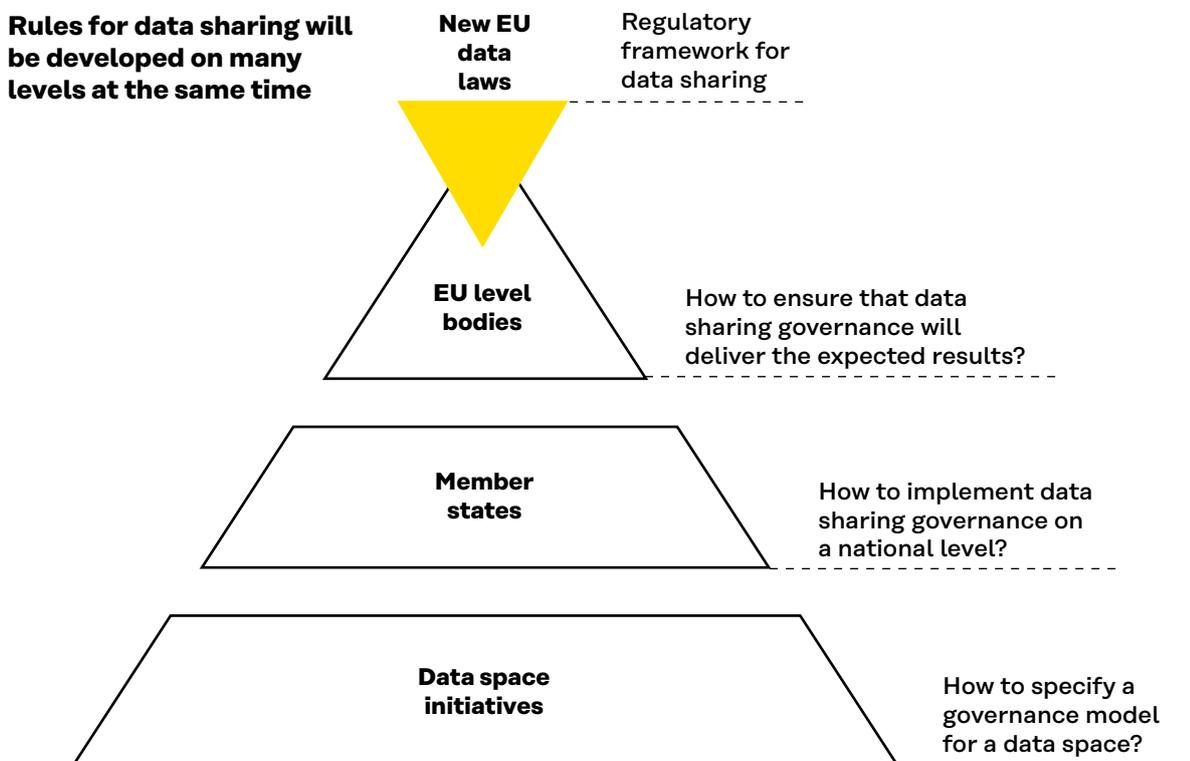
Data spaces are soft digital infrastructures that enable reliable and easy data exchange

across organisational boundaries. Data transactions between different parties are based on the governance framework. A data space should be generic enough to support the implementation of multiple use cases. The ultimate goal of the data spaces is to create new value (financial, social and societal) from data within a given sector or across sectors.

Data sharing requires trust. Trust can be facilitated by effective governance, which means the rules for sharing data. But where do these rules come from?

Data-sharing rules are established through various governance processes involving many stakeholders. Governance takes place at three main levels: the EU, member states and data spaces.

**Figure 1. The different levels of implementation of the EU Data Strategy and critical questions.**



The European Commission is implementing a new legal framework, which includes the Data Act and the Data Governance Act, to promote trustworthy sharing and use of data between organisations in the EU. Many new and existing EU bodies, such as the European Data Innovation Board (EDIB) and the European Data Protection Board (EDPB), provide guidance to organisations involved in data sharing.

At the national level, existing agencies such as competition, telecom and data protection authorities, or newly established bodies, will oversee these new EU data laws. Some national

regulations also directly impact data sharing; for instance, the 2019 French mobility law incorporates national rules that influence data-sharing activities within the French mobility sector. Concerning data sharing at the data space level, sharing data will also require data space-specific business rules and decisions on which architectures and standards to follow.

The applicable rules are always a combination derived from all levels. Eventually, data spaces must integrate the requirements from the different levels when defining their governance framework. This governance framework is called a rulebook.

## Data space

The concept of data space is evolving and the term has slightly different definitions in different contexts. While there are different definitions of data spaces, they all share the same basic objective – to facilitate trusted data flows in a fair and transparent manner for the parties involved in data sharing. In data spaces, individuals and organisations, as data rights holders, are in the driver's seat, deciding who can use their data and on what terms. By comparison, in more centralised and traditional data platforms decision-making power is in the hands of a few. The benefits also often accumulate more for the platform owner.

## Data space rulebook

A data space rulebook codifies all the legal, business, technical, and administrative rules as well as ethical guidelines to be established by the data space participants.

Sitra maintains an openly licenced Rulebook for a fair data economy, a template and toolkit that can be used to create a customised rulebook for a given data space or another type of data sharing network. Based on Sitra's rulebook, for example, the International Data Space Association (IDSA) has developed the IDSA rulebook as the base governance framework for the data spaces that follow the IDSA standards.

In summary, the pyramid in Figure 1 illustrates how different bodies at many levels are simultaneously developing the rules for data sharing:

- **New EU data laws**, for example, Data Governance Act (DGA) and the Data Act.
- **EU bodies**, such as the European Data Innovation Board (new), the European Data Protection Board (existing) and the data space support organisations.
- **Member states**: new and existing roles of the member state authorities.
- **Data space initiatives in different sectors**, such as the Maritime Data Space, Digital Product Passport, Skills Data Space and Tourism Data Space.

The governance rules can be developed using two primary approaches: a **top-down approach** involving EU and national regulations and a **bottom-up approach** involving non-binding standards, guidelines and internal rules within data spaces.

**The top-down approach** to governance forces alignment between stakeholders and creates conditions for interoperability, a level playing field, and trust within the wider data-sharing ecosystem.

- The main concerns with the top-down approach relate to the burden of compliance, the slowness of regulation to adapt, and the potential disconnect of regulation from the local contexts.
- In the worst-case scenario, unduly rigid regulation may stifle innovation and disproportionately benefit larger players while discouraging smaller companies from entering the promising data-sharing market.

**The bottom-up approach** allows organisations interested in data sharing to coordinate and agree on common rules quickly, with fewer compliance burdens and liabilities.

- Local coordination promotes adaptability

and flexibility as smaller data-sharing communities can set the rules that work in their specific contexts.

- The main risk associated with the bottom-up approach is the potential creation of silos, which can impede overall interoperability.

The success of the EU Data Strategy will depend on its implementation and effective governance, intelligently combining the top-down and bottom-up approaches. The regulation will overshadow the development and innovation objectives if the governance structure is overly complex. Seamless governance, on the other hand, will create a level playing field that balances regulation and innovation.

This report examines the emerging European data-sharing market, focusing on the crucial aspect of governance. Following extensive desk research, we interviewed more than 100 experts representing over 70 organisations from the data space ecosystem at different levels, including the EU, member states, and data space initiatives encompassing ten sectors.

This report will follow the three-level structure of the Figure 1 presented above. This means that the report examines the regulation at the EU level, across member states and across data space initiatives.

First, this report provides an overview of the European regulatory framework for data sharing, the perceived pain points and how data governance is implemented. Based on the desktop study and expert interviews, we propose a holistic data governance framework that combines and complements the existing approach of data space rulebooks with a new tool called “the rolebook”. The rolebook is an open, transparent, and dynamic registry of roles and bodies involved in data sharing. It would comprehensively document ‘who does what’ and ‘who decides on what’ and establish an interconnected network of data-sharing decision-making bodies. We conclude with recommendations on how to build effective governance at different levels.

## 2. The regulatory framework for data sharing

**The European Data Strategy 2020 sets out a roadmap for Europe’s single market for data, emphasising trustworthy and transparent data structures, fairness, and individual empowerment.**

Below we list the laws that are within the scope of this study.

**The Data Governance Act (DGA)** introduces a new EU-level governance body for data sharing, the European Data Innovation Board (EDIB). The EDIB is an expert group that provides general guidance for the effective implementation of the EU data strategy. It straddles the line between regulation and support.

**The Data Act (DA)** creates an obligation for companies to provide users with access to the data generated by their connected IoT (Internet of Things) devices, whether those users are individuals or other companies, as well as other requirements for data sharing.

**The Artificial Intelligence Act (AI Act)** advocates a ‘risk-proportionate approach’ that requires organisations developing AI-based technologies to comply with regulations that are proportionate to the level of risk associated with their specific use cases, which are classified as high, limited or minimal. The AI Act also establishes an Artificial Intelligence Board (AIB), which is expected to share several governance touchpoints with the European Data Innovation Board (EDIB).

**The Data Markets Act (DMA)** addresses the behaviour of big data platforms known as ‘gatekeepers’, which could directly affect the functioning of certain data spaces. It focuses in particular on the role of gatekeepers as intermediaries and introduces obligations to ensure fair competition. These obligations may include allowing third-party interoperability in certain situations.

**The Data Services Act (DSA)** aims to establish comprehensive regulations for all digital services, including social media, online marketplaces, and other online platforms operating within the European Union. The inter-institutional agreement underlying the DSA states that what is illegal offline should also be illegal online, leading to new obligations for providers of digital services and online platforms. The provisions of the DSA might have a direct impact on multiple data spaces’ use cases.

**The Interoperable Europe Act (IEA)** aims to support the creation of a network of sovereign and interconnected digital public administrations, thereby accelerating the digital transformation of the European public sector. Through procurement, the public sector influences data-sharing practices and standards more broadly. Therefore, the IEA should be seen as a subset of European data governance practices that have a strong influence on the overall data-sharing infrastructures. The IEA sets specific rules for business-to-government (B2G) data sharing and establishes a new dedicated governance body known as the Interoperable Europe Board (IEB). Synergies and coherence between IEB and the European Data Innovation Board (EDIB) are crucial.

**The Digital Decade** policy programme sets up a monitoring and cooperation mechanism to achieve the common goals and targets for Europe’s digital transformation by 2030. It also introduces multi-country, large-scale projects to achieve these digital goals and targets. The Digital Decade introduces the framework of European Digital Infrastructure Consortia (EDIC). The EDICs are intended to support the implementation of the common European data spaces by sector.

## Do we need more regulation?

### The case of the Data Governance Act and the Interoperability Act

The EU Commission's DG DIGIT is responsible for digital services that support EU institutions in their daily work and help public administrations in EU member states. In November 2022, DG DIGIT, announced ongoing efforts to develop an Interoperability Act, which will influence data sharing within the European public sector.

Many of the data sharing experts interviewed raised concerns about the coordination between the Interoperability Act and other recent legislation. In particular, the experts saw a potential overlap between the European Data Innovation Board (EDIB), defined in the Data Governance Act, and the Interoperable Europe Board (IEB), defined in the Interoperability Act. Both bodies would deal with pan-European standardisation related to data sharing.

According to DG DIGIT, the EDIB would address broader aspects of standardisation, while the Interoperable Europe Board (IEB) would take a more practical and detailed approach to data sharing within the public sector.

The lack of clarity in the coordination between the EDIB and the IEB could impede innovation. The introduction of a new governance body through the Interoperability Act could further complicate the work of member states already involved in the EDIB and deter private organisations from entering the data sharing market as they would have to navigate and comply with two distinct approaches.

### 3. European organisations and bodies supporting data sharing

**In addition to regulations and governance bodies such as the European Data Innovation Board (EDIB), the European Commission’s main actions to implement the data strategy are procurement and funded projects. Through funded projects, the EU supports the establishment of an effective governance framework, facilitates stakeholder collaboration, promotes standardisation and technology, and furthers concrete data spaces in different sectors.**

The EU supports various projects through **Digital Europe (DIGITAL)** and other funding programmes. These projects include standardisation and support initiatives such as **the Data Space Support Centre (DSSC)**, technological advances such as the smart middleware for data spaces (Simpl), and funding for sectoral data spaces. In 2022, the European Commission launched a series of preliminary studies to facilitate the establishment of data spaces in different sectors, such as the Green Deal, Tourism, Skills and Smart Cities. The sectoral initiatives boost collaborative efforts for concrete technological advances and governance actions within each sector. The Commission also funds concrete projects for data space implementation after the preliminary studies.

In addition, the European Commission has identified **the European Digital Infrastructure Consortium (EDIC)** framework as a key tool to facilitate the implementation of data spaces. The main purpose of the EDIC framework regarding data sharing is to provide long-term financial support for the necessary infrastructure of sectoral data space initiatives involving several member states. The Commission aims to create a structure similar to the 3rd Generation Partnership Project (3GPP), seen in the telecom sector.

Data space support organisations are organisations, consortia, and collaborative networks outside the official EU bodies that have taken initiatives to define cross-sectoral standards, architectures, and frameworks that facilitate the implementation of data space initiatives. Notable examples of data space support organisations include BDVA, FIWARE, Gaia-X, IDSA, Sitra, and others. These support organisations provide reference models for data spaces, rulebook frameworks (Sitra Rulebook), labels (such as Gaia-X labels), standards (like IDSA connectors), and open-source data space building blocks (such as Gaia-X federated services).

## European level pain points

- The interviews highlighted a key pain point: **the balance between regulation and innovation**. Many interviewees shared the concern that the current emphasis on regulation and legal considerations excessively shapes data sharing practices, thereby limiting opportunities for innovation.
- There is also a risk that regulation and policies to support data innovation become antagonistic forces with the data protection and security regulation—for example, the EDIB and the EDPB working against each other.
- Another ongoing challenge for many stakeholders at the EU level is the **difficulty in understanding the roles and responsibilities of all the different bodies involved in EU data governance now and in the future**. For example, there are many uncertainties about the mandate, timeline, scope, and practical organisation of the EDIB.
- There is still a lack of clarity about the long-term management of sectoral governance beyond the sector-specific preliminary studies.
- Many people find it difficult to distinguish between the different models and technologies proposed by the data space support organisations such as Gaia-X, IDSA, FIWARE, and others. In choosing one over the other, there is some concern about potential compatibility issues that may arise in the future. Some stakeholders also see a potential overlap between the DSSC and the data space support organisations.
- Many of the stakeholders interviewed expressed concerns that new bodies (such as the EDICs and the IEB), potential new regulations, or EU-funded projects (such as Simpl, data space implementation projects) might generate additional overlaps and further complicate the already complex landscape of data governance.

## 4. Member states connecting the EU level with local data spaces

**The interviews suggest that coordination at the member state level could play a central role in facilitating the development of data space initiatives and fostering collaboration at all levels of the data-sharing ecosystem. This means the member states are in a crucial position to facilitate coordination between the EU-level strategy and concrete local data space initiatives.**

Data space initiatives primarily bring together stakeholders who share common use cases, language, perspectives, compliance with national regulations, market understanding and familiarity with key market or administrative actors. Therefore, at least initially, most data space initiatives will likely work within a single member state.

National authorities have many questions to answer when implementing the new data regulations. The potentially non-harmonised interpretations of the regulations in different member states would create a greater burden for organisations wishing to share data or operate in multiple member states.

At the time of writing, the member states are implementing the first of the new data regulations, the Data Governance Act, before the transition period ends in September 2023.

Under the Data Governance Act, each member state must:

- Appoint competent authorities to register and supervise the data intermediation services (Art. 13) and data altruism organisations (Art. 23). These authorities will represent the member state on the European Data Innovation Board (Art. 29).
- Establish a single information point to receive requests to reuse public sector data (Art. 8).
- Designate supporting bodies to assist public sector agencies manage data reuse requests (Art. 7).

These requirements raise questions: Should one or more agencies handle these tasks? Should some entirely new bodies be established, or can the new functions be carried out by, for example, the competition authority, telecoms authority or the data protection authority?

The set of member state responsibilities derived from the Data Governance Act is just one example of a new regulation. The challenge is that the member states will be implementing many new data laws at the same time. Additionally, the member states are balancing administrative considerations such as the existing division of competencies and budgetary constraints to stakeholders' expectations. The member states need to assess the impacts of the different laws in combination, as they will affect national regulators and other bodies responsible for data governance. The following table 1. presents an overview of the key regulations, the corresponding governance bodies that have been established, their participants, and their main objectives.

Member states have a crucial role to play in linking the EU level with local data space initiatives. We propose that the member states designate a coordinating actor, which could be a collective entity represented by a single coordinator or any other appropriate arrangement. The member state coordinating actor would be a key link between national regulators, administrative levels, innovation hubs (cloud, data, AI), cities and regions, sectors, national innovation hubs, and the country's data space initiatives. The member state coordinating actor would establish links and foster collaboration with other member states and EU-level bodies, particularly through the European Data Innovation Board (EDIB). For example, the representative of the member state coordinating actor could sit on the EDIB.

## **Example of the Spanish government's Chief Data Officer (CDO)**

In 2020, the Spanish government created the new role of Chief Data Officer (CDO) at national level, reporting to the Secretary of State for Digitalisation and Artificial Intelligence. The main purpose of this new position is to empower Spain by taking an active role in accelerating the implementation of the EU Data Strategy and promoting the sharing and use of data at scale. By breaking down the data siloes of informational systems and using a common set of solutions and methodologies, the mission is to realise the full potential of the fertile data economy.

The Spanish National Data Office helps to share and use government data more effectively. It is also accelerating the digital transformation of key industrial sectors, using funds from the Recovery and Resilience Facility (RRF) to strengthen Spain's data culture. One of the key elements for these implementation efforts is to understand the incentives for the different stakeholders to mobilise end-to-end representations of industrial ecosystems and to articulate innovative value propositions for data-sharing projects that can become champions.

In this sense, the Spanish CDO is also responsible for promoting the implementation of the Common European Data Spaces in Spain. In addition to fostering the Gaia-X Hub Spain, the National Data Office is contributing to the establishment of data spaces specifically focused on tourism, health, agri-food, industry and sustainable mobility.

## Member state pain points

- The interviews with the stakeholders in member states revealed one pain point in particular: **member states are under intense pressure to implement all of the EU regulations on data- and digital strategies**. If member state authorities do not coordinate the division of responsibilities and tasks, there is a risk of fragmented and sub-optimal outcomes. Some national regulation authorities expressed coordination concerns between the different national regulatory bodies (such as for the supervision of data intermediaries mentioned in the Data Governance Act).
- Another challenge is that **data spaces are a relatively unfamiliar topic for many member state authorities** although they might already have imposed excessive data-sharing obligations within their sector (energy, transport, spatial data as an example). As a result, member states may lack the skills and knowledge to support their local data ecosystems. As the member states are already overwhelmed with the different regulations, they may have fewer resources and practical interest in supporting the data spaces.
- Often the individual authorities **lack the skills to implement sectoral data-sharing requirements following the horizontal (cross sectoral) interoperability regime** and data space principles. Thus, the EU has ongoing development that creates fragmented silos.
- A separate topic raised in the interviews concerns the **lack of alignment between digital identity initiatives and data space development**. Some member states, including Estonia, France, and Belgium, have ongoing national digital identity initiatives. In parallel, the EU is working on an EU wallet project to standardise tools for managing data (including personal data). While the identity- and wallet projects hold significant potential for the success of data space initiatives, they often need to be better integrated and linked to data space development.

**Table 1. Key data related to EU regulations, related entities and responsibilities**  
(Summary as of June 2023).

Entities that member states must create or designate in order to comply with a specific law are marked with an asterisk (\*) in the “new entity” column. Member state involvement at the EU level or on their territory is marked with an asterisk (\*) in the “who is involved” column.

REGULATION	NEW ENTITY	WHO IS INVOLVED	IMPACT
<b>General Data Protection Regulation (GDPR)</b>	European Data Protection Board (a body of the Union)	Member state DPAs* and the European Data Protection Supervisor (EDPS).	Adopt binding decisions, advise the Commission on third-country data transfer agreements and issue own-initiative or requested reports on best practices for the consistent application of the GDPR.
	Data Protection Authority*	Each member state*	Supervise the application of the data protection law by providing expert advice and handling complaints
<b>Data Governance Act (DGA)</b>	European Data Innovation Board (a Commission expert group)	Representatives of competent authorities of all the member states*, the European Data Protection Board (EDPB), the Commission, relevant data spaces and other representatives	Facilitate the exchange of national practices and promote standardisation as well as interoperability
	Interface for data re-users*	Each member state*	Single information point
	Supporting bodies*	Each member state*	Provide authorities sharing data with technical and organisational support
<b>Data Act (DA)</b>	EDIB	See DGA	Coordinate enforcement of the regulation
	Coordinating authority	Each member state*	One or more competent authorities to apply and enforce the new rules. One must be chosen as the coordinating authority if multiple authorities are involved.
<b>Interoperable Europe Act</b>	Interoperable Europe board	Representatives of the member states*, the Commission, the European Committee of the Regions and the European Economic and Social Committee	Facilitate cooperation and exchange of information on cross- border interoperability of network and information systems
	Interoperable Europe community	Public and private stakeholders, including representatives of academia, business and public administrations	Provide expertise and advice to IEB
<b>Artificial Intelligence Act (AI Act)</b>	European Artificial Intelligence Board	Representatives from the member states* and the European Commission	Facilitate harmonised implementation of the new rules and ensure cooperation between the national supervisory authorities and the Commission
	National supervisory authority*	Each member state*	Supervise the application and implementation of the regulation
	Market surveillance authorities*	Each member state*	Assess operators' compliance with the obligations and requirements for high-risk AI systems

REGULATION	NEW ENTITY	WHO IS INVOLVED	IMPACT
<b>Digital Services Act (DSA)</b>	European Commission	European Commission	Exclusive competence for Very Large Online Platforms (VLOP) and Very Large Online Search Engines (VLOSE).
	National Digital Services Coordinator (DSC)*	Each member state*	Supervise the intermediary services established in their Member State and/or coordinate with specialist sectoral authorities
	European board for digital services (EBDS)		Advisory group to DSCs and the Commission
<b>Digital Markets Act (DMA)</b>	European Commission	European Commission	Implement and enforce the DMA, and to that end is granted new powers to conduct market investigations and take decisions on non-compliance
	Digital Markets Advisory Committee	Representatives of EU member states*	Assist the Commission
<b>European Health Data Space act (EHDS)</b>	EHDS board	Commission (chair) and representatives of the member states' digital health authorities and health data access bodies*	Assist Member States in coordinating digital health authorities' practices
	Digital health authority*	Each member state*	Implement the access rights granted to individuals and health professionals
	National contact point*	Each member state*	Connection with all other national contact points and with MyHealth@EU
	Health data access bodies for secondary use of electronic health data*	Each member state*	Decide on data access applications, ensure the traceability of the requests lodged and permits granted, cross-border cooperation and the uptake of data altruism

## 5. Data spaces making the EU's data strategy real

**Data spaces are currently being developed in different sectors throughout Europe. Most data space initiatives are in an early stage of development, and very few have moved beyond the pilot phase. However, within each data space initiative, there is a growing understanding of the importance of establishing common rules for data sharing.**

Data spaces are an emerging area where the market demand for trusted data-sharing solutions is developing alongside the provision of data spaces.

Data spaces support the ongoing business transformation in which many organisations are beginning to view data more as a product and to produce it with reuse in mind. However, the current reality is that many organisations still lack the motivation to share data in the first place. Organisations often fear losing strategic control over data and its value. At the same time, they do not have ready-made business cases or other explicit incentives to engage in data sharing. Some private sector organisations consider the Data Governance Act, the Data Act and other regulations primarily as compliance issues and fail to see the potential for value creation.

Nevertheless, many organisations are willing to share data with their peers. These early adopters form the market demand for data spaces as they need to cultivate trust and establish common rules with other parties involved in data sharing. Each organisation may have its own rules for using and sharing data derived from different regulations, standards, guidelines, or policies. One-to-one practices for data sharing and ecosystems within closed value chains already exist. Challenges appear when organisations want to establish common rules in a multilateral context and with bodies that they do not already have established relations with. This is where the data space concept

comes to help establish the governance framework in an open and neutral way. Technological considerations are a more distant concern. Data spaces should be able to offer easy-to-use governance services that lower the barrier for the data space participants to create concrete use cases for data sharing. Understanding all the complexities should not be necessary for businesses wishing to participate in data sharing. Ideally, complying with the data sharing rules should be effortless, even automated.

Shared rules build trust between the data space participants and facilitate in practice the exchange and use of data within a data space or between two or more data spaces. Data spaces allow data space participants to control data sharing by implementing standardised protocols for managing identity, contracts, authorisations and consent (for personal data). In general, data spaces improve the accessibility, quality and interoperability of data, as well as legal certainty. Different technologies may be used in data spaces as long as the technologies follow common standards within and across sectors. The common standards facilitate overall interoperability, data discoverability and access to data.

Data spaces will overcome existing legal and technical barriers to data sharing, unlocking the immense potential of data-driven innovation. While the pursuit of data-sharing standards is not a new concept, what sets the EU data strategy apart is its scale and ambition, aiming for interoperability across data spaces spanning all member states and sectors.

Data spaces can be legal entities or contractual arrangements involving private and public organisations. They can be implemented at various levels, including sectoral collaborations, smart city projects, EU initiatives, and national initiatives.

Organisations often establish data spaces because they have a common interest in specific use cases. For instance, mobility stakeholders within a country may collaborate to form a mobility data space. Organisations may participate in multiple data spaces, such as a mobility data space for mobility-related use cases and a skills data space for HR purposes. Data spaces can be nested within each other, such as an EU-level energy data space providing governance and infrastructure for data sharing in the energy sector. Under this, local projects and communities can be developed as sub-data spaces to address specific needs and requirements.

The interests of all relevant stakeholders within a data space initiative should be adequately and non-discriminatorily represented in the governance of the data space. Each data space should have a **governance authority** to implement such inclusive governance (see the example of the mobility data space below). The data space governance authority, representing all its participants, is responsible for creating, developing, maintaining, and enforcing a governance framework for the data space. This framework is codified in the data space rulebook, which contains the rules for data sharing within the data space and with external parties.

These rules encompass:

- **Hard law:** EU and member state legislation that directly or indirectly relates to data or data sharing (See Chapter 2).
- **Soft law:** Standards, codes of conduct, guidelines, etc., that are not legally binding. Soft law rules cover a wide range of issues, including technical, business, ethical and security.
- **Internal rules:** Rules developed specifically between participants in a data space, such as business agreements and context-specific data standards and policies.

The data space governance authority ensures that the rulebook contains relevant

regulations (hard law), helps the data space participants to agree on common standards and guidelines for implementation (soft law) and helps them to decide on internal rules.

Compliance with the data space rulebook creates trust in data sharing. It ensures that trust components, such as business agreements, contracts, authorisations and consents, are respected by all parties. When collaborating with external entities, assessing the compatibility of joint use cases with the rules of the different data spaces involved is crucial. Infrastructure providers that enable data sharing through technology must also comply with the rules detailed in the rulebook. This approach prevents technology players from imposing their own policies without consultation with the communities involved.

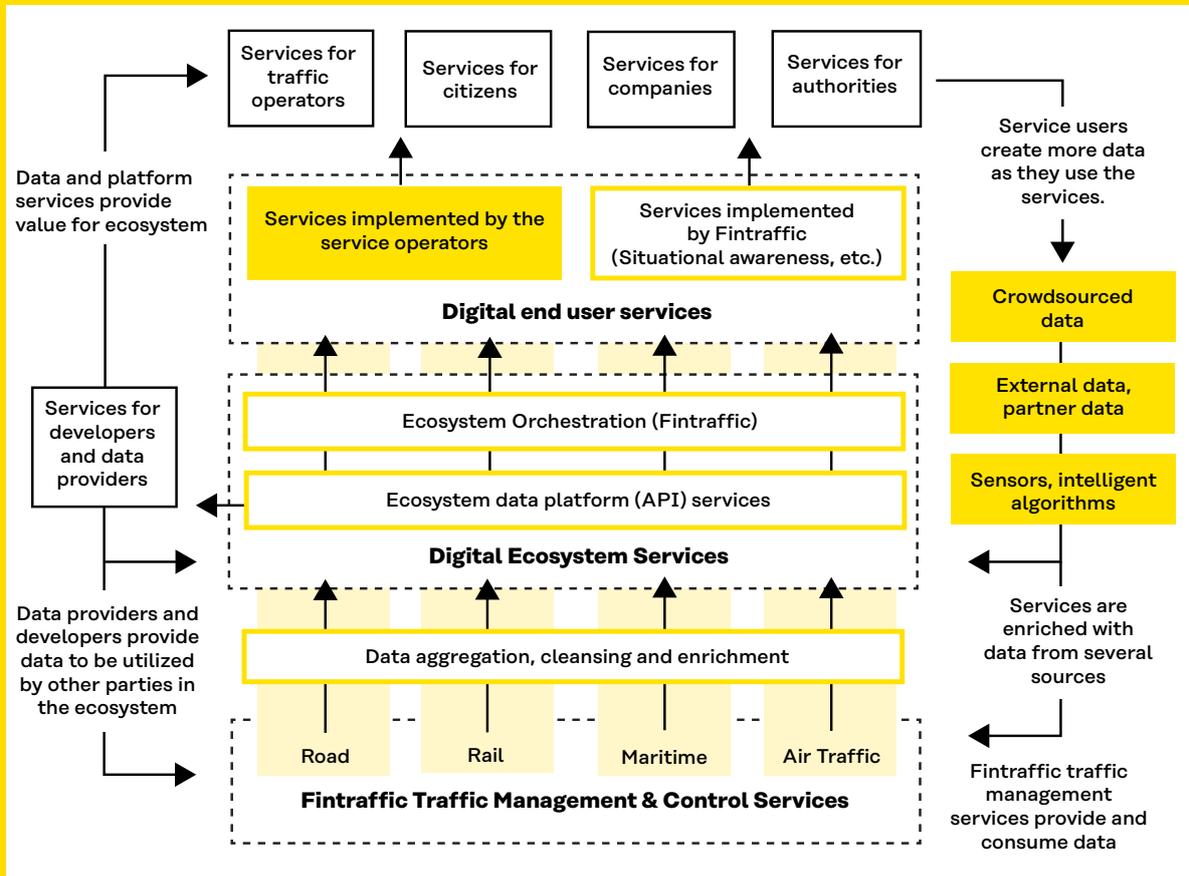
Data spaces are innovative and complex projects that often move through unexplored terrains. As such, they are still in a open-ended development phase, often requiring pivoting and refinement. The governance of the data space initiatives needs to be flexible enough to allow for such iterative development. The following dual approach aims to achieve flexibility by combining best practices from knowledge management with project management:

- 1.** Identify all stakeholders involved in the data space initiative. Map how their inputs and outputs align with each other and with the project's goals. This makes it easier to understand expected benefits, responsibilities and dependencies.
- 2.** Define a clear value proposition for all types of stakeholders.
- 3.** Establish clear leadership for all deliverables in the implementation stage.
- 4.** Create effective communication channels so requirements and information flow as the project progresses.
- 5.** Openly share knowledge between stakeholders.

### Rulebook example: Mobility data space in Finland

Data spaces are often established within a specific sector and tailored to serve a specific geographic area, as is the case with the Mobility data space in Finland, created by Finland’s state-owned company Fintraffic, with private and public actors in the ecosystem (see figure below). Fintraffic is the governance body of the mobility data space in Finland and has developed a traffic data ecosystem rulebook based on an open-source rulebook by Sitra. The mobility data space rulebook facilitates data sharing and building mutual trust within the traffic management sector by creating a contractual framework for individual actors, such as transport companies, to join.

**Figure 2. Mobility data space in Finland, created by Finland’s state-owned company Fintraffic, with private and public actors in the ecosystem.**



Source: [Fintraffic](#), Finland’s official traffic management company operating under the Ministry of Transport and Communications of Finland.

## Data space pain points

- Interviews with those involved in data space initiatives revealed the main pain point: **data spaces struggle to create internal governance structures that are compliant with the regulatory environment.** One of the value propositions of data spaces is to facilitate compliance with the various data sharing rules and regulations. Essentially, the data spaces will carry the burden on behalf of the data space participants. Data space initiatives must navigate the complexities of integrating diverse regulations (hard law) and make decisions about adopting standards and guidelines (soft law) from various options at different levels. They also need to address legal concerns such as privacy, competition law, sector-specific rules and cybersecurity.
- At present, **most data space initiatives are reluctant to handle personal data due to concerns related to privacy regulations.** There is also a lack of clarity on how different data spaces address personal data management. To some extent, current data space initiatives perform tasks internally that would be better suited for specialised data space intermediaries that provide services to multiple data spaces. Personal data intermediaries, for example, could help with the management of personal data.
- Some data space initiatives are also concerned about matters of competition law that may arise when data space members agree on common standards.

## 6. A holistic data governance framework: rolebook and rulebooks

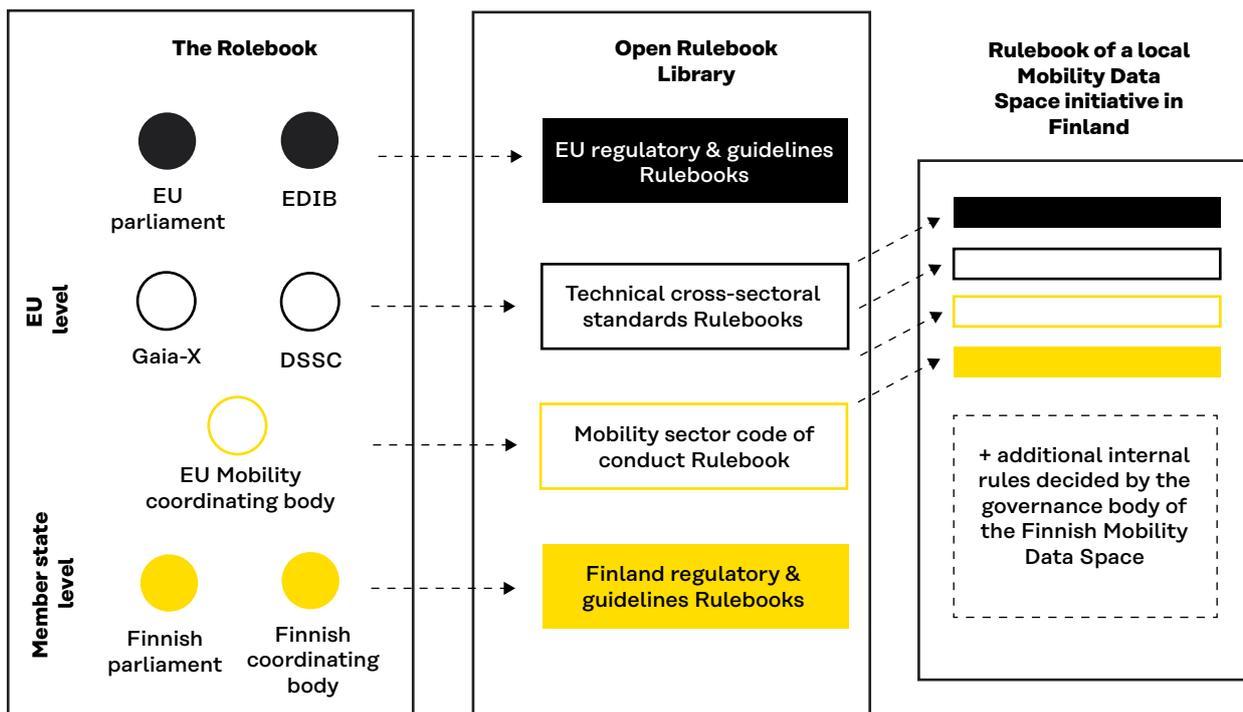
The root cause of many of the pain points revealed in our work is the problem of gaps, duplications and overlaps in roles between the different actors at all levels. To mitigate these challenges and facilitate effective decision-making at all levels, we propose a holistic data governance framework that combines the existing approach of rulebooks with a new tool called the rolebook.

The rolebook is an open, transparent, and dynamic registry of roles and bodies involved in data sharing. Role refers to the set activities that the one performing the role is expected to do. Rights and duties (obligations) can be associated with the role. Bodies are formal or informal organisations participating in the data-sharing governance processes by creating, implementing, or enforcing the rules. The rolebook would comprehensively document

‘Who does what’ and ‘Who decides what’ and establish an interconnected network of data-sharing decision-making entities.

The rolebook aims to increase clarity and enable stakeholders at all levels (EU, member states, data spaces) to easily map the current data governance structures and their respective scope. Together with the rulebook approach, it provides a comprehensive framework for European data governance. The roles and bodies presented in the rolebook could be referenced from the rulebooks and vice versa. The rolebook would also build a common understanding of the possible policy interventions needed to ensure the continuity of those roles and functions that are evaluated critically from the perspective of resilience and a functioning market.

**Figure 3. Example of designing a rulebook of a data space through the rolebook & rulebook framework.**



Making a rolebook and putting it to use will require substantial political will and coordination among numerous public and private organisations in the EU, member states, sectors, support organisations and data spaces. It is a challenging task, but we believe that it is doable. The rolebook is inspired by a similar effort to establish a global Legal Entity Identifier (LEI) in response to the 2008 financial crisis.

The rolebook approach should enable a balanced approach between regulation and innovation through the following process:

- **Compliance by design:** Regulations establish a comprehensive framework of mandatory data-sharing rules to ensure alignment of all data space initiatives across sectors and borders. The data space initiatives should be able to incorporate these regulations into their data-sharing infrastructure through automated implementation.
- **Innovate:** Data space initiatives should have the flexibility to easily develop and implement soft laws or internal rules within their data-sharing infrastructure, allowing for rapid adaptation to local contexts and business models.
- **Learn:** Regulatory bodies and public authorities should be able to monitor and evaluate the outcomes of different rules implemented by different data space initiatives. They would analyse and compare the impact of hard and soft law rules at different levels and identify rules that may pose challenges versus rules that provide efficiency, trust and reliability.
- **Arbitrate:** Regulatory bodies should be able to establish regulatory sandbox mechanisms to help data space initiatives refine their soft law decisions. They would gain deeper insights into the effects of hard law regulations and could arbitrate accordingly.
- **Adapt:** After the learning and arbitration processes, regulatory bodies at different levels could consider whether to transform some successful soft law rules into hard law.

## Rolebook and rulebooks from the perspective of a data space

Prometheus-X is an international data space initiative in the skills domain that aims to accelerate the upskilling of individuals and connect them with appropriate training opportunities. The Prometheus-X organisation aims to be a governance authority for the skills data space, implementing its rulebook based on Sitra's fair data economy rulebook.

In its rulebook, Prometheus-X defines the relevant roles and associated bodies in a standardised way. This information could ideally be part of the harmonised rolebook, building on the rolebooks at the member state level. Each role defined at a local level for Prometheus-X is associated with rights and obligations (rules) regarding data access, data processing, business transactions, security, etc.

It would facilitate interoperability if each data space defines the roles, building also on the other levels. If a widely adopted rolebook existed, the roles defined locally (like in the case of Prometheus-X) would be available to other data spaces and bodies on different levels. The data space governance authority could save time setting up the ecosystem and its governance using a standard basis of role definitions and related rules.

### Some bodies at EU and member state level:

- EU and national parliaments
- The EDIB
- Support organisations like Gaia-X and the DSSC
- The sectoral preliminary study for the Skills data space (DS4Skills)
- The French representation at the EDIB

### Some bodies and related roles at the local ecosystem level:

- A skills analysis applications and edtech companies (roles: service- or data provider)
- Organisations providing training (role: end user)
- Individuals using the system (role: end user)
- Organisations providing tools for trusted data sharing (role: personal data intermediary)
- A sectoral association establishing sectoral data sharing standards, governance, and business models (role: data space governance authority)
- Auditors and certification bodies to assess conformity and compliance

## 7. Recommendations

### 7.1 European level recommendations

**Challenge:** Many stakeholders at the European level and in the member states, and also within the data space initiatives struggle to understand the roles and responsibilities of all the different bodies involved in EU data governance now and in the future.

**Policy recommendation 1:**

**Rolebook.** Create an open, transparent, and dynamic register of all roles and decision-making bodies involved in data sharing called a rolebook. Implement this framework at the EU and the member state level. See Appendix 1 for more details on the rolebook model.

**Challenge:** The main concern shared by many stakeholders at the EU level concerns balancing regulation and innovation. For example, many of the experts interviewed fear the strong presence of data protection and other authorities in the European Data Innovation Board (EDIB) may indicate that regulatory compliance will outweigh the innovation perspective in EDIB's work.

**Policy recommendation 2:**

**Regulators' super club.** Formalise an EU-level body comprising coordinating actors from member states (see the policy recommendation 5.) responsible for implementing the EU Data Strategy across the ministerial boundaries. This new body, which we call a 'regulators' super club', would oversee and harmonise regulatory activities in crucial domains, such as the supervision of data intermediaries covering privacy, competition, cybersecurity, and other relevant issues. Such a 'super club' could be organised as a sub-group of the EDIB.

**Policy recommendation 3: EU-level data governance forum.** There should be a strong dialogue between the EDIB and the different EU-level regulatory bodies/associa-

tions related to the data spaces (including data privacy with the EDPS, competition with the Competition Authority, cybersecurity with CSIRT—computer security incident response teams). Such coordination could be organised through an EU-level governance forum that meets in Brussels. For the coordination to work, each entity should have a clear mandate and a planned work programme.

**Challenge:** There is a tendency for the regulation to be additive. The new data laws or data space initiatives cover areas that have already established rules. Without reforming the existing regulations, we end up with mixed requirements and increased unclarity between the already established and new governance bodies.

**Policy recommendation 4: Regulatory dependency mapping.** The Commission should establish robust dependency mapping of regulatory requirements and only introduce new requirements that do not conflict with existing regulations or, where conflict is unavoidable, start deregulating the requirements from existing regulations. The deregulation process should limit the sector-specific requirements to only those elements not covered by horizontal level regulations.

### 7.2 Member state level recommendations

**Challenge:** Member states are under intense pressure to implement all the regulations of the EU data and digital strategies. If member state authorities do not coordinate the division of responsibilities and tasks, there is a risk of fragmented and sub-optimal results.

**Policy recommendation 5: National legislative coordination.** All member states should designate a coordinating actor responsible for implementing the EU Data

Strategy across ministerial boundaries. These coordinating actors could sit on the board of the EDIB (which would require updating legislation).

**Policy recommendation 6: Strengthen dialogue.** The coordinating actor in the member states should establish close links with the national data space support organisations and other innovation hubs related to data, cloud and AI. The coordinating actor should also collaborate with the relevant national administrative levels, including ministries, regions, cities and various administrative authorities.

**Challenge:** The support for the data spaces is organised at the EU level through the Data Spaces Support Centre (DSSC). However, most data space initiatives work within a single member state. As the member states are already overwhelmed with the different regulations, they may have fewer resources and practical interests in supporting data spaces.

**Policy recommendation 7: National data space hubs.** National-level support for the data spaces should be organised through local hubs, networked at the European level and in regular contact with the DSSC. The support hub would provide comprehensive support to national data space initiatives, including preparation, implementation, and operation. This body should provide support in various areas, including funding, governance aspects related to public-private collaboration, and keeping abreast of developments at the EU level.

### 7.3 Data space level recommendations

**Challenge:** Data space initiatives struggle to create internal governance and rulebooks.

**Policy recommendation 8: Data space rulebooks.** In the guidelines for Common European Data Spaces, the EDIB should include a common principle-based preamble for data space governance charters. The preamble should explicitly define the general principles (ethics, human centricity, fairness) that are shared by all common European data spaces. The preamble could be developed with other EU bodies such as DG JUST, DG COMP and VP for Values and Transparency.

**Challenge:** Publications from different organisations supporting data spaces (such as Gaia-X, IDSA, BDVA, FIWARE) use different terminology, which is often aimed at a more technical audience and not so appealing to business users and public decision-makers.

**Policy recommendation 9: Common terminology.** The Data Spaces Support Centre (DSSC) should invest in stronger branding and promote a common approach to terminology.

## Appendix 1: Key elements of the rolebook and rulebooks

Rulebooks already exist, and rolebook is a new concept. This appendix sets out how the rolebook approach could complement the rulebooks to create a holistic data governance framework in Europe. This is a vision and a discussion starter, not an implementation blueprint. The concept should be tested and developed iteratively, which will inevitably lead to changes compared to what is presented here.

The rolebook is a federated model for maintaining an up-to-date register of roles and bodies involved in the governance and implementation of data sharing at all levels, from data spaces to national and European levels. A neutral body should maintain and publish a globally accessible master rolebook. For example, the European Commission could maintain the register as part of the activities related to the European Data Innovation Board (EDIB). The information content of the master rolebook would come from sub-areas with the authority to maintain information on a sub-set of roles and bodies. For example, the national registration authority would verify and publish the content in a (sub) rolebook containing the corresponding national roles and bodies. Similarly, a sectoral data space could maintain its (sub) rolebook containing the roles and bodies relevant to the particular domain (such as health, finance, tourism).

Every data space has its rulebook. The data space rulebook is the documentation that codifies the data space governance framework for operational use. The rulebook can be expressed in human-readable, lawyer-readable and machine-readable formats. The proposed holistic data governance framework requires machine-readability and standards for the rulebooks and role guides. We propose to call such a common and machine-readable format the Data Sharing Rule Language (DSRL).

The data space rulebooks and the rolebook would be linked. The data sharing rules

encoded in the rulebooks include hard and soft law and internal data spaces' rules. These rules are do's and don'ts' (mandatory or optional) for specific roles and/or bodies. The data space rulebooks could rely on the rolebook to get verified descriptions of the roles and bodies. And vice-versa, the roles and bodies contained in the rolebook would be linked to all rules that apply to them (compliance) or that they are involved in setting (governance) or enforcing. The data space rulebooks should be accessible in an open rulebook library directly linked to the rolebook.

### Key elements of rulebooks and the rolebook:

- **Roles** are generic functions performed by specific stakeholders of the data-sharing ecosystem. Roles may include, for example, formulating laws or enforcing, developing guidelines or standards, governing or operating a data space, and managing a data intermediary. Roles also describe the rights and obligations associated with a particular function.
- **Bodies** are formal or informal structures or organisations involved in the data sharing governance process (creating, implementing or controlling the application of rules). Bodies may include, among other things, authorities, support organisations, standardisation bodies, data space governance authorities, public or private organisations or individuals.
- A body may have several roles at the same time, and several bodies may have the same role.
- Each body should have a single point of contact in the rolebook for coordination purposes.
- Each body within the rolebook should

indicate in the rulebook the set of data-sharing rules it adopts or implements.

- The roles and bodies in the rolebook and the rules in the rulebook should have a clear scope to facilitate implementation and enforcement and to enable the analysis of potential gaps, duplication, and overlap within the ecosystem.

### **The rolebook and rulebook approach could help:**

- **Avoid duplication, overlap and gaps:** Before proposing a new body at any level, the rolebook could be used to carry out dependency mapping to avoid duplication. The rolebook can also be used to check whether the scope of a role, a body, a specific rule, or an entire rulebook overlaps with another. If several bodies or rules refer to a role not yet included in the rolebook, it may be recommended to create such a role for a new or existing body.
- **Disseminate the implementation of the regulations:** This approach would make the various the EU and national regulatory requirements available in a standard format, thus helping to identify interdependencies between regulations and to align implementation between the EU and member states.
- **Compliance with the regulations:** The approach would help the data-space initiatives to structure their governance frameworks taking into account all the relevant rules. The tool would also help any organisation wishing to build a data ecosystem by allowing them to easily assign roles, obligations, and rights to stakeholders in its ecosystem. The creation of a data space rulebook would be streamlined through automated processes, allowing data space initiatives to discover and reuse rules formulated by others.
- **Conflict resolution across data spaces:** When data is to be shared across multiple data spaces, inconsistencies between data space rulebooks become problematic and need to be identified and solved. The machine-readable rolebook and rulebooks would enable automated conflict detection procedures to facilitate dispute resolution between participating data spaces.

## Appendix 2: Example of Legal Entity Identifier (LEI)

The 2008 financial crisis set the stage for the creation of the Legal Entity Identifier (LEI), a globally unique identifier for legal entities involved in financial transactions.

This identifier facilitates the achievement of several global objectives:

- better risk management within companies,
- improved assessment of micro and macro-prudential risks,
- facilitation of coordinated resolution,
- limitation of market abuse,
- fight against financial fraud,
- improvement of the quality and accuracy of financial data.

Economic and financial stakeholders have long recognised the need for a global financial identification tool. However, implementation proved to be challenging until a crisis provided the necessary arguments for global financial authorities to enforce it.

The Financial Stability Board (FSB), mandated by the G-20, developed the framework for implementing the LEI, explaining in a 2012 preparatory note that the absence of the LEI, despite its obvious need, was due to a lack of interest in collective and coordinated action. The complexity of operationalising and deploying the LEI was seen as an obstacle.

Launched in June 2014 and operated by the Global Legal Entity Identifier Foundation (GLEIF), the LEI system addresses the problem of identifying parties to transactions across markets, products, and regions, which became apparent after the 2008 financial crisis.

Prior to the LEI, company identifiers were managed by national organisations and several

global private operators, leading to fragmentation and lack of interconnectivity for commercial reasons. The privatisation of this information was seen as a mistake, as it hindered global financial stability. The LEI provides two types of information: ‘who is who’ and ‘who owns whom’.

The LEI system follows a federated model, allowing local registration authorities to issue globally recognised identifiers to legal entities. The global organisation GLEIF operates the globally accessible registry by verifying and publishing the information submitted by legal entities through certified LEI issuers.

In establishing the LEI system, public interest considerations were paramount in determining the appropriate governance model. The definition of the public interest adopted by the FSB is based on five pillars:

- Ensuring free and open access for all.
- Ensuring that the cost of obtaining an LEI is modest.
- Preventing any entity participating in the system from gaining a competitive advantage.
- Aligning the LEI with the needs of the public sector.
- Empowering governance bodies to protect the public interest, develop the rules, audit participants, and resolve disputes.

The LEI is now widely used globally, with 250 adopting jurisdictions and nearly 2 million active LEIs. The average cost of an LEI is less than \$100 per year.

## Appendix 3: An example of implementing governance of data legislation in Finland

The draft table below serves as an example of the complexity and coordination required in the implementation of the legislation.

	EU legislation	Content	Responsibilities
<b>Public sector data and governance</b>	<b>Open Data Directive (ODD) and high-value datasets</b>	Open data in the public sector	Digital and Population Data Services Agency, State Treasury, every authority
	<b>Data Governance Act (DGA)</b>	Reuse of certain secure data in the public sector	Statistics Finland, Digital and Population Data Services Agency, every authority
		Data intermediary services and data altruism	Traficom - The Finnish Transport and Communications Agency
		Data Innovation Board	Traficom - The Finnish Transport and Communications Agency
<b>Regulation on electronic identification and trust services for electronic transactions in the internal market and repealing (eIDAS)</b>	Digital identity (wallet application)		
	Certification of an electronic identification system	Digital and Population Data Services Agency, Traficom - The Finnish Transport and Communications Agency (to be confirmed)	
<b>Online content</b>	<b>Digital Services Act (DSA)</b>	Online intermediaries and their liability	Traficom - The Finnish Transport and Communications Agency, Data Protection Ombudsman, Consumer Ombudsman
		Monitoring of very large online platforms	Commission
		European Digital Services Board	Traficom - The Finnish Transport and Communications Agency
	<b>Regulation on addressing the dissemination of terrorist content online (TCO)</b>	Addressing the online dissemination of terrorist content	Police, Traficom - The Finnish Transport and Communications Agency
	<b>Combating child sexual abuse online (CSAM)</b>	Intervening in sexual abuse of children online	Police (to be confirmed)
EU centre and coordinating authority			
<b>Competition</b>	<b>Digital Markets Act (DMA)</b>	Regulation and supervision of gatekeepers	Commission
	<b>Regulation on platform-to-business relations (P2B)</b>	Status of business users of online intermediaries	Market Court

	EU legislation	Content	Responsibilities
<b>Rights and obligations</b>	<b>Data Act (DA)</b>	Shared use of data and its terms	Traficom - The Finnish Transport and Communications Agency, Data Protection Ombudsman, FCCA - The Finnish Competition and Consumer Authority (to be confirmed)
		Right of the public sector to receive data	
		International data silos	
		Interoperability and exchange of data processing services	
		Supervision	
<b>Data protection and free movement</b>	<b>General Data Protection Regulation (GDPR)</b>	Processing and free movement of personal data	Data Protection Ombudsman
		Supervision	
	<b>Regulation on the free flow of non-personal data (FFD)</b>	Free movement of non-personal data Information point and contact point	Traficom - The Finnish Transport and Communications Agency
<b>Artificial intelligence</b>	<b>ePrivacy Regulation (ePR)</b>	Data protection in electronic communications	Traficom - The Finnish Transport and Communications Agency, Data Protection Ombudsman, FCCA - The Finnish Competition and Consumer Authority
		Supervision	
<b>Public services</b>	<b>Artificial Intelligence Act (AIA)</b>	Prohibited practices and transparency	To be confirmed
		High-risk AI systems	
		Placing AI systems on the market	
		Notified bodies, supervision and experimentation	
<b>Public services</b>	<b>Single Digital Gateway (SDG)</b>	A shared digital service channel	Development and Administration centre for ELY Centres (The Centres for Economic Development, Transport and the Environment in Finland) and TE Offices, each authority
	<b>Interoperable Europe Act</b>	Interoperability of public services	To be confirmed

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**SITRA WORKING PAPER** 27 September 2023  
Sitra working papers provide multidisciplinary information about developments affecting societal change. Working papers are part of Sitra's future-oriented work conducted by means of forecasting, research, projects, experiments and education.

ISBN 978-952-347-352-2 (PDF) [www.sitra.fi](http://www.sitra.fi)

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