



DATA SPACES  
SUPPORT CENTRE

DSSC Insight Series

# The Data Spaces Blueprint Version 1.0

25 April 2024 | 16:00 to 17:30 CEST | online



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LNDS



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TNO



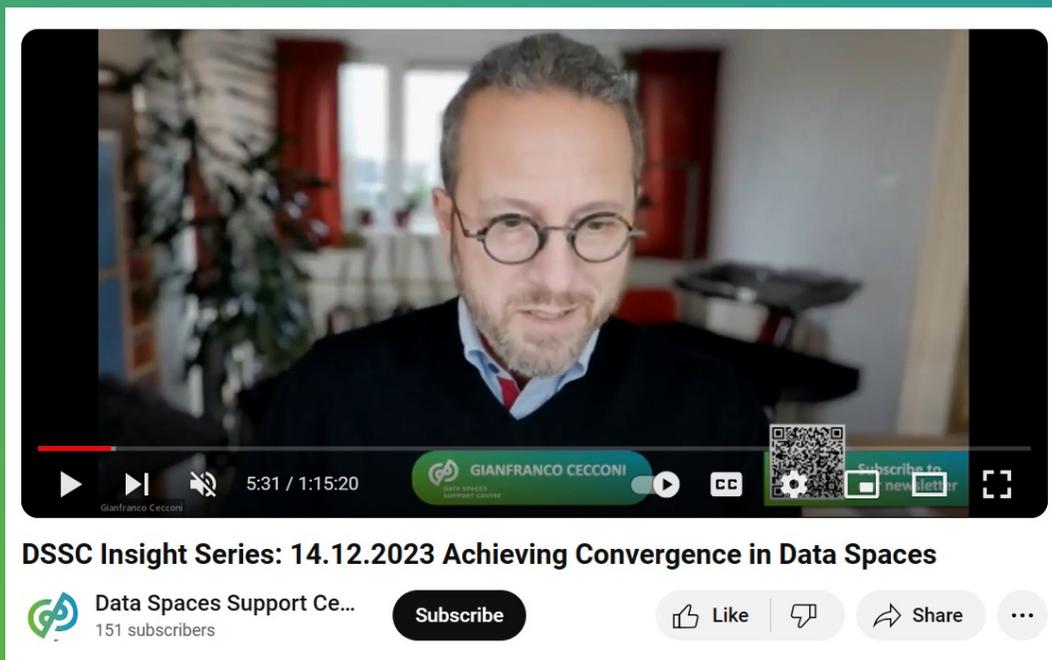
**Matthijs Punter**  
TNO



The Data Spaces Support Centre receives funding from the European Union Digital Europe Programme under grant agreement n° 101083412.

# Today's agenda

- Welcome  
Professor Boris Otto, DSSC Project Coordinator, Fraunhofer ISST
- Assets, glossary and conceptual models  
Bert Verdonck, Chief Executive Officer at the Luxembourg National Data Service
- A deep dive into the blueprint version 1.0  
Matthijs Punter and Claire Stolwijk, TNO
- Q&A



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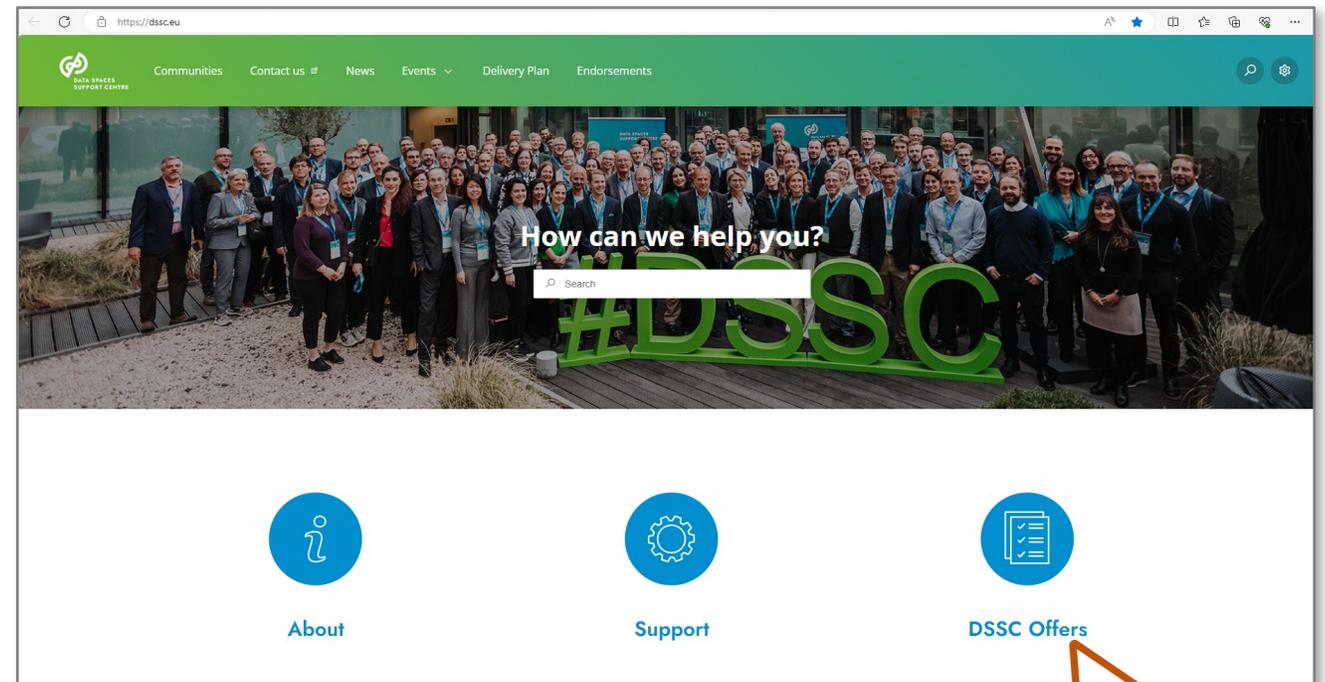
# Intro

Professor Boris Otto, Fraunhofer ISST

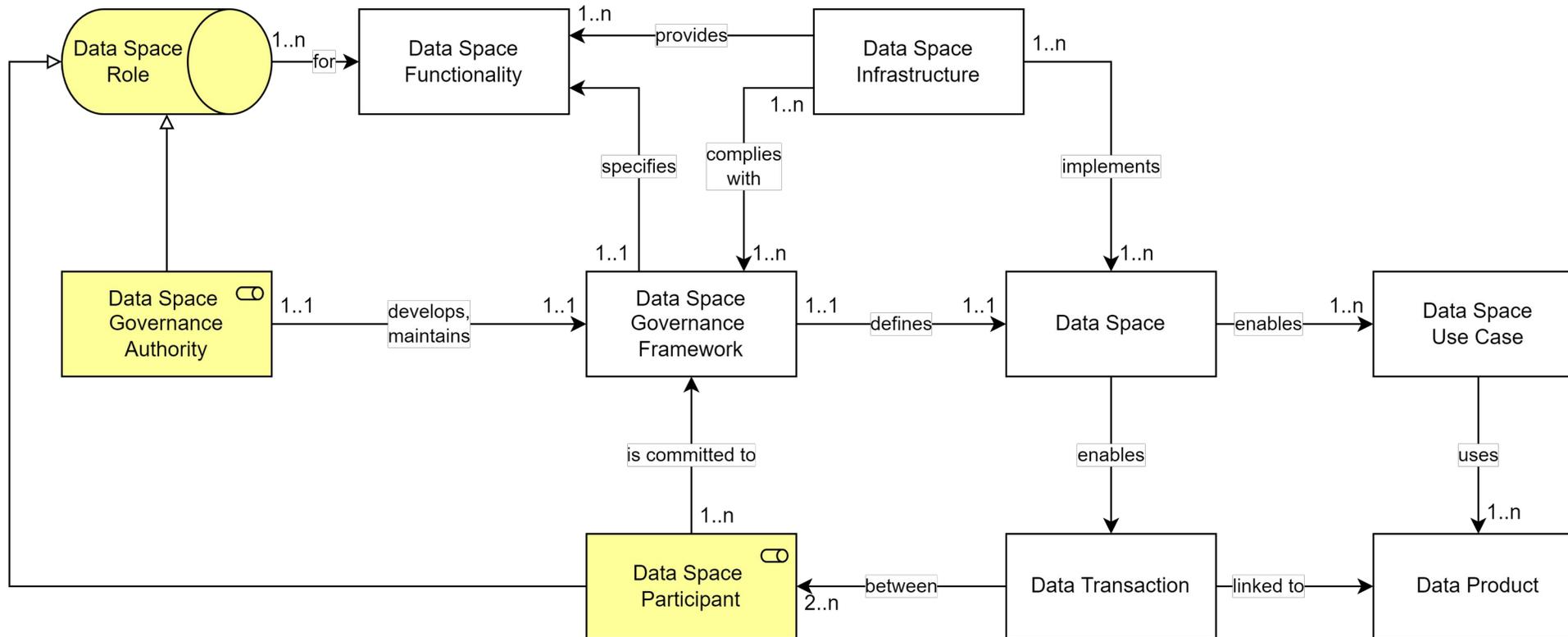
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# DSSC Blueprint-related Assets

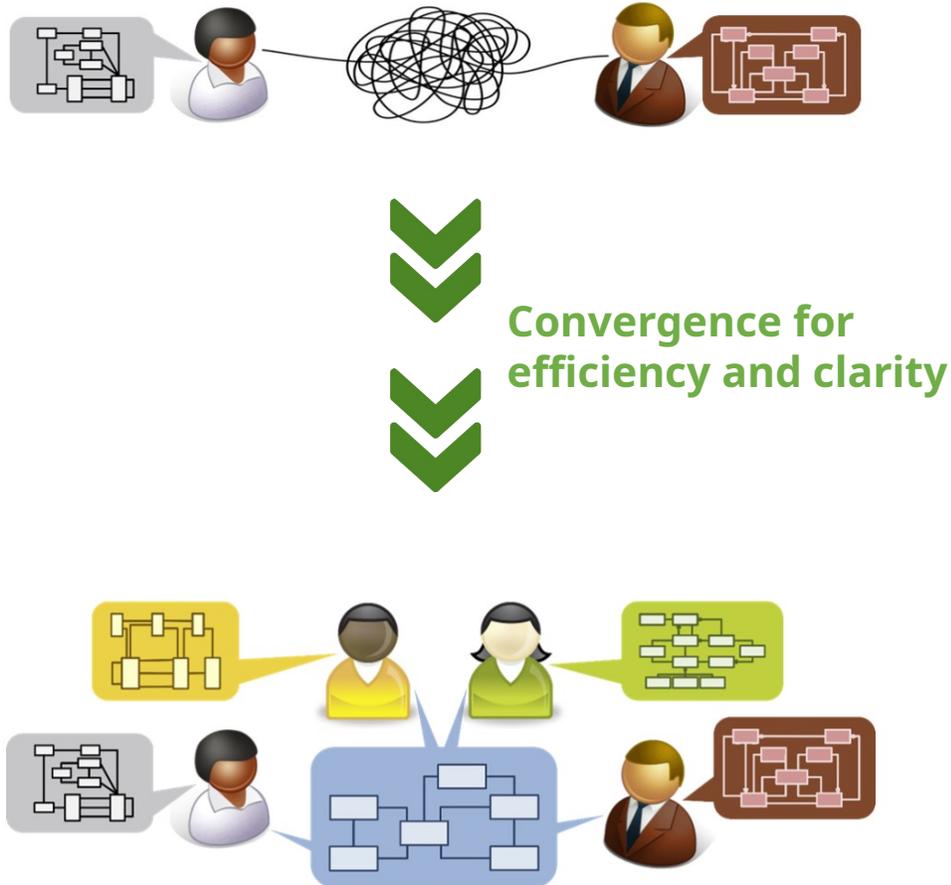
- › Conceptual model
- › Glossary
- › Starter Kit
- › Collection of Standards
- › Blueprint



# Conceptual model



# Glossary

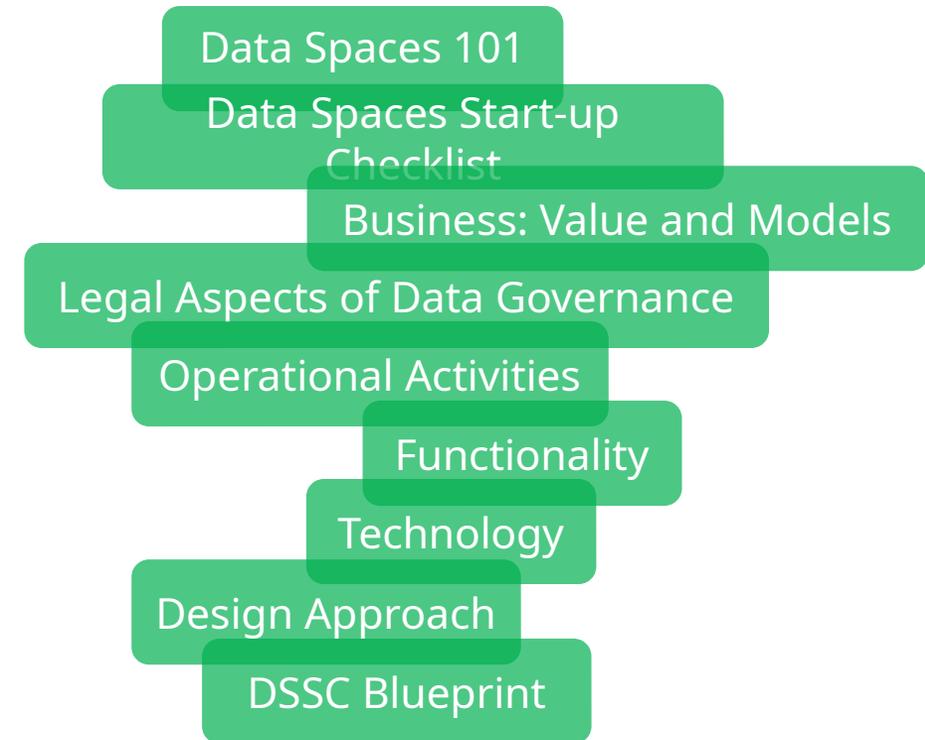


DSSC Glossary features **~100 terms** in the following categories:

- Foundation of the European data economy concepts
- Core Concepts
- Data space use cases and business model
- Evolution of data space initiatives
- Data space services
- Data products and transactions
- Data policies and contracts
- Interoperability
- Identity and trust
- Building blocks and implementations
- DSSC-specific terms

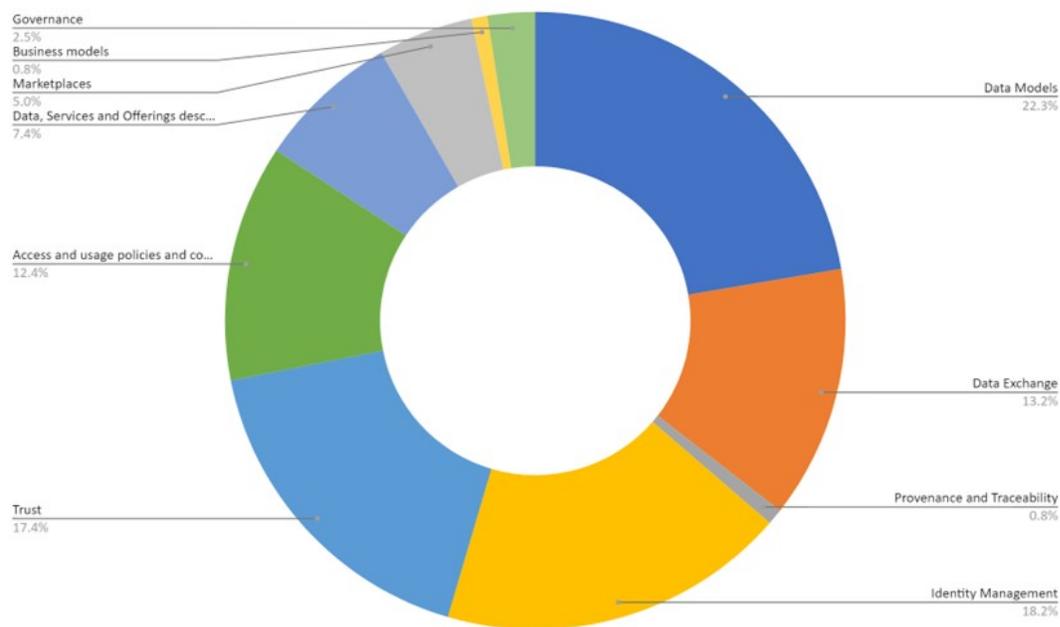
# Starter Kit

- › Easy to read introduction to data spaces and to the DSSC
- › Target:
  - data space designers
  - data producers
  - data consumers
  - providers of intermediary services
  - services and business applications

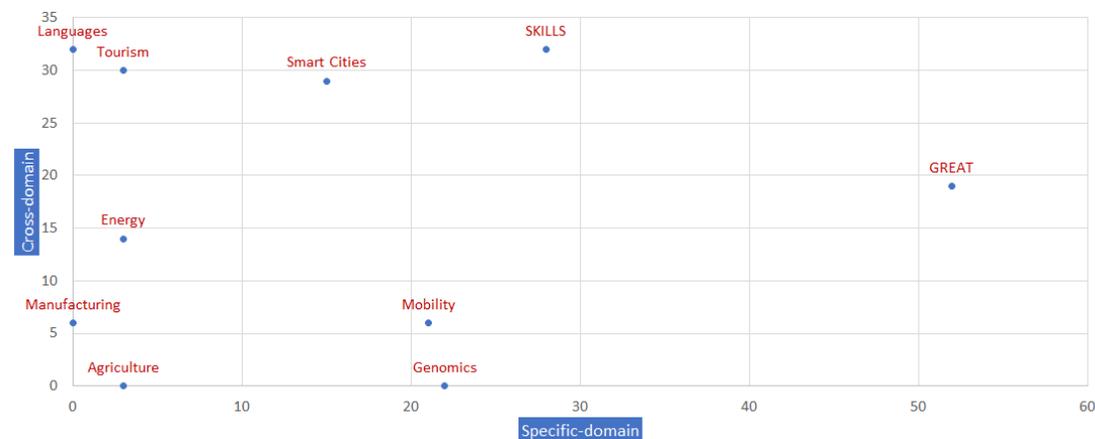


# Collection of Standards

- › Map of 130 existing standards and specifications jointly built with the NoS collected until September 2023 and input material for Expert Groups at the Blueprint.



Collected standards per building block



Domain-specific vs cross-domain

Endorsed by more than 3 data spaces:

- Verifiable Credentials, DCAT, JSON-LD, NGSI-LD, XACML, ODRL, EUDI, eIDAS, DID, SOLID, SAML, Dublin Core, OGC

# DSSC Blueprint



Get to a higher flight-level, quicker



Future-proof your investments



Federate and scale: bigger market, more value

## Building Blocks:

- › Required capabilities
- › Core design decisions
- › Specifications & common standards
- › Further reading



Business & Organisational Building Blocks

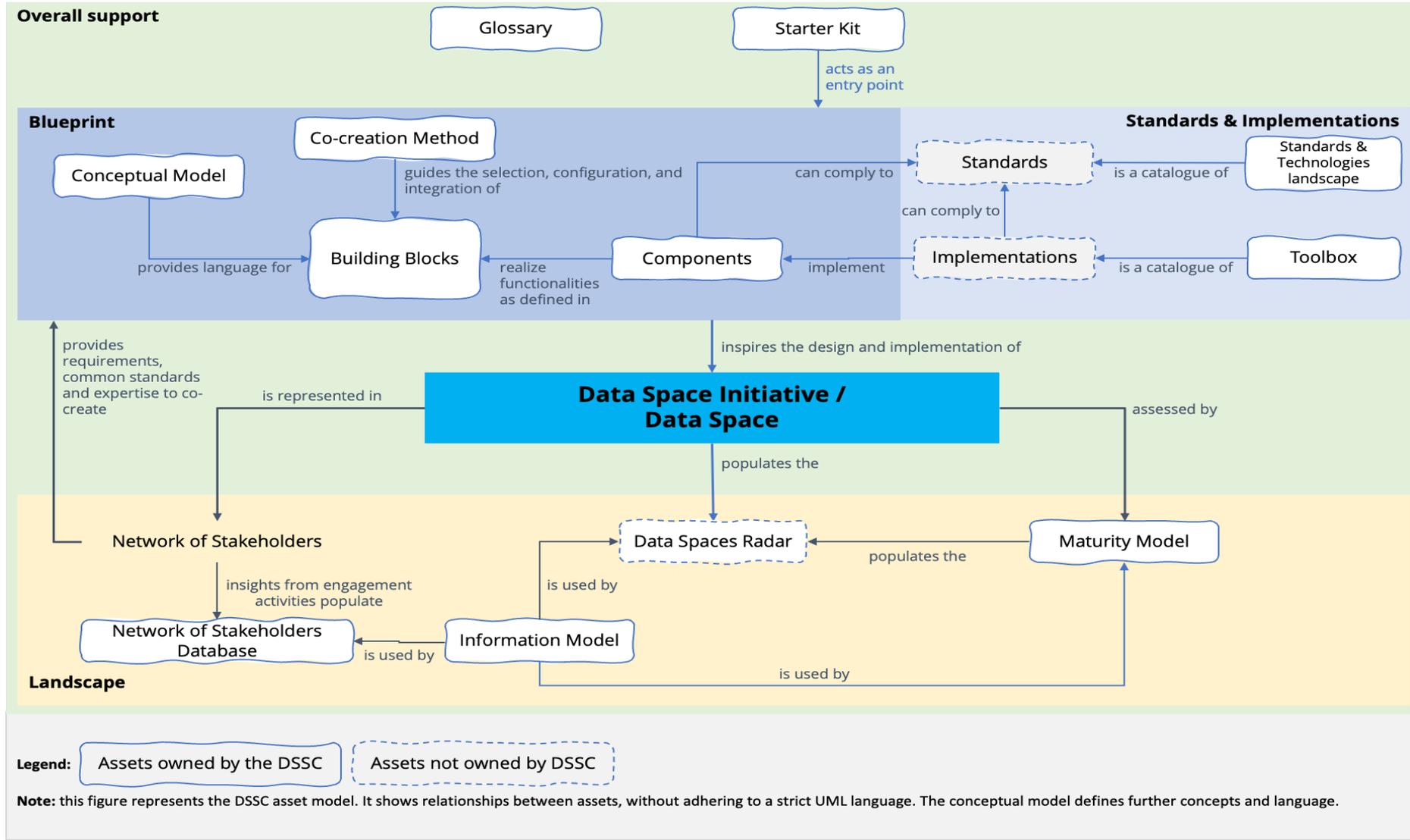


Technical Building Blocks

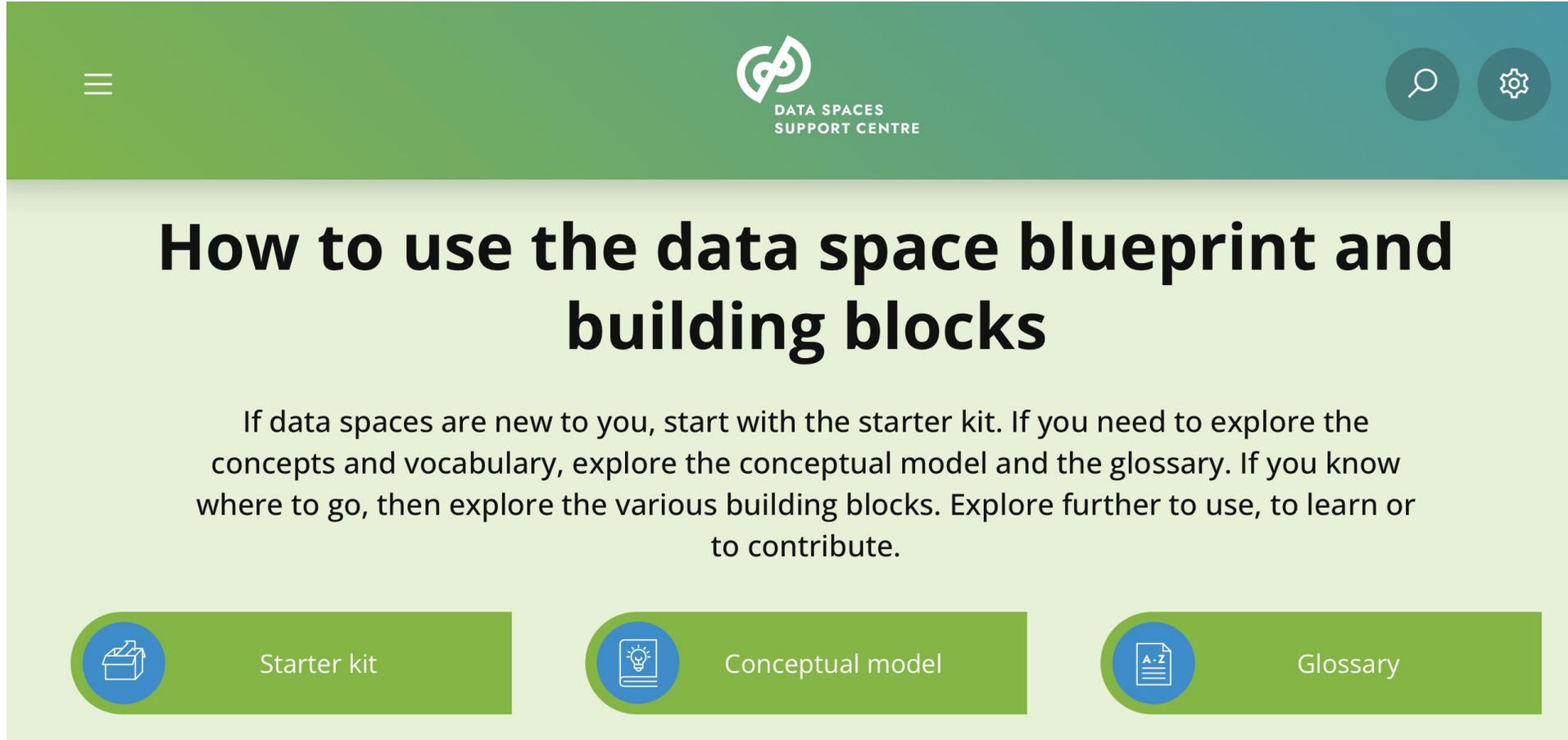
# Assets, glossary and conceptual model

Bert Verdonck, LNDS

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# Glossary and conceptual model



The screenshot shows a website interface with a green header. On the left is a hamburger menu icon. In the center is the Data Spaces Support Centre logo. On the right are search and settings icons. The main content area has a light green background with the title 'How to use the data space blueprint and building blocks'. Below the title is a paragraph of text. At the bottom are three green buttons with icons and labels: 'Starter kit' (box icon), 'Conceptual model' (lightbulb icon), and 'Glossary' (document icon).

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## How to use the data space blueprint and building blocks

If data spaces are new to you, start with the starter kit. If you need to explore the concepts and vocabulary, explore the conceptual model and the glossary. If you know where to go, then explore the various building blocks. Explore further to use, to learn or to contribute.

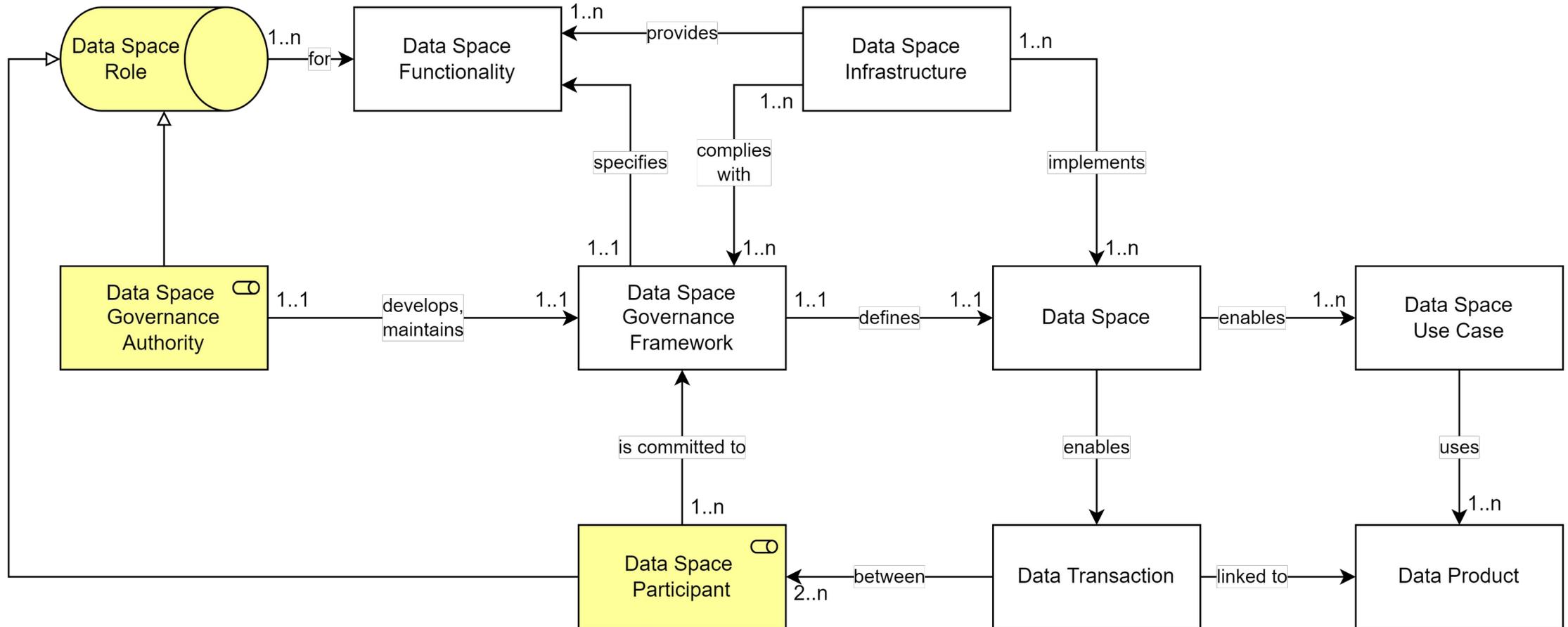
 Starter kit

 Conceptual model

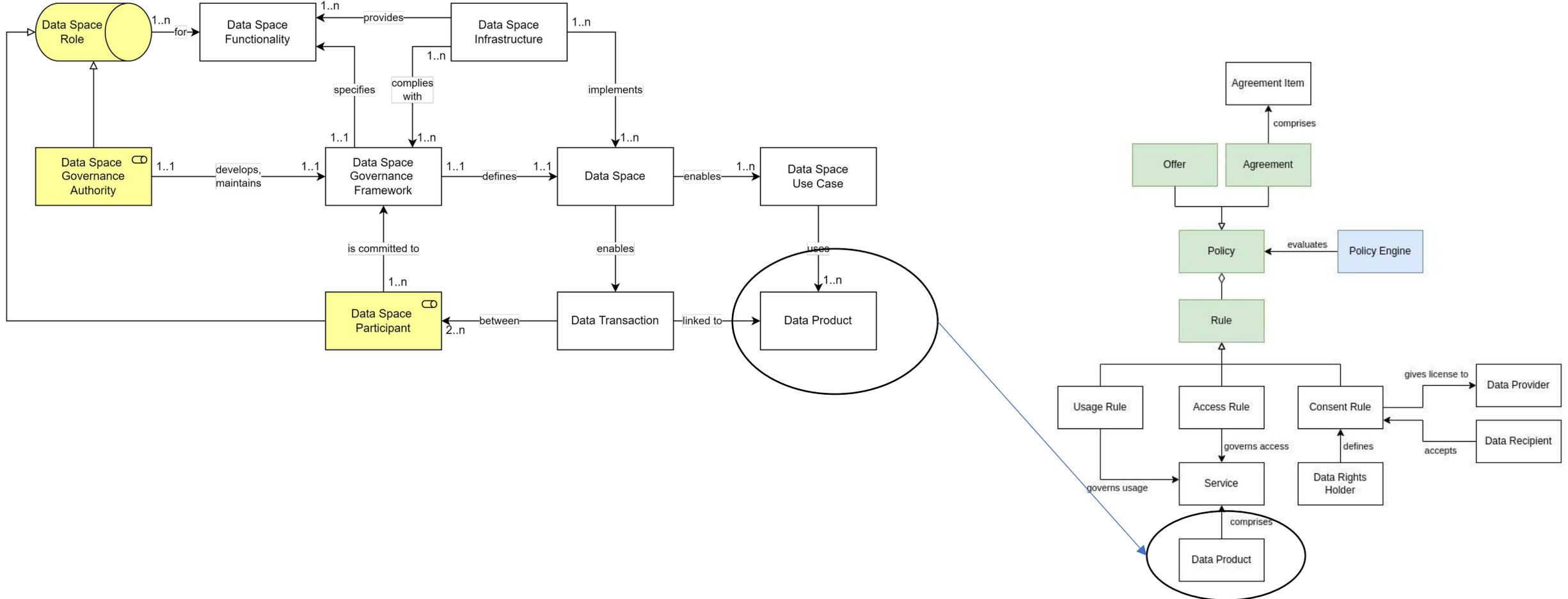
 Glossary

# Glossary: a huge step towards conceptual clarity



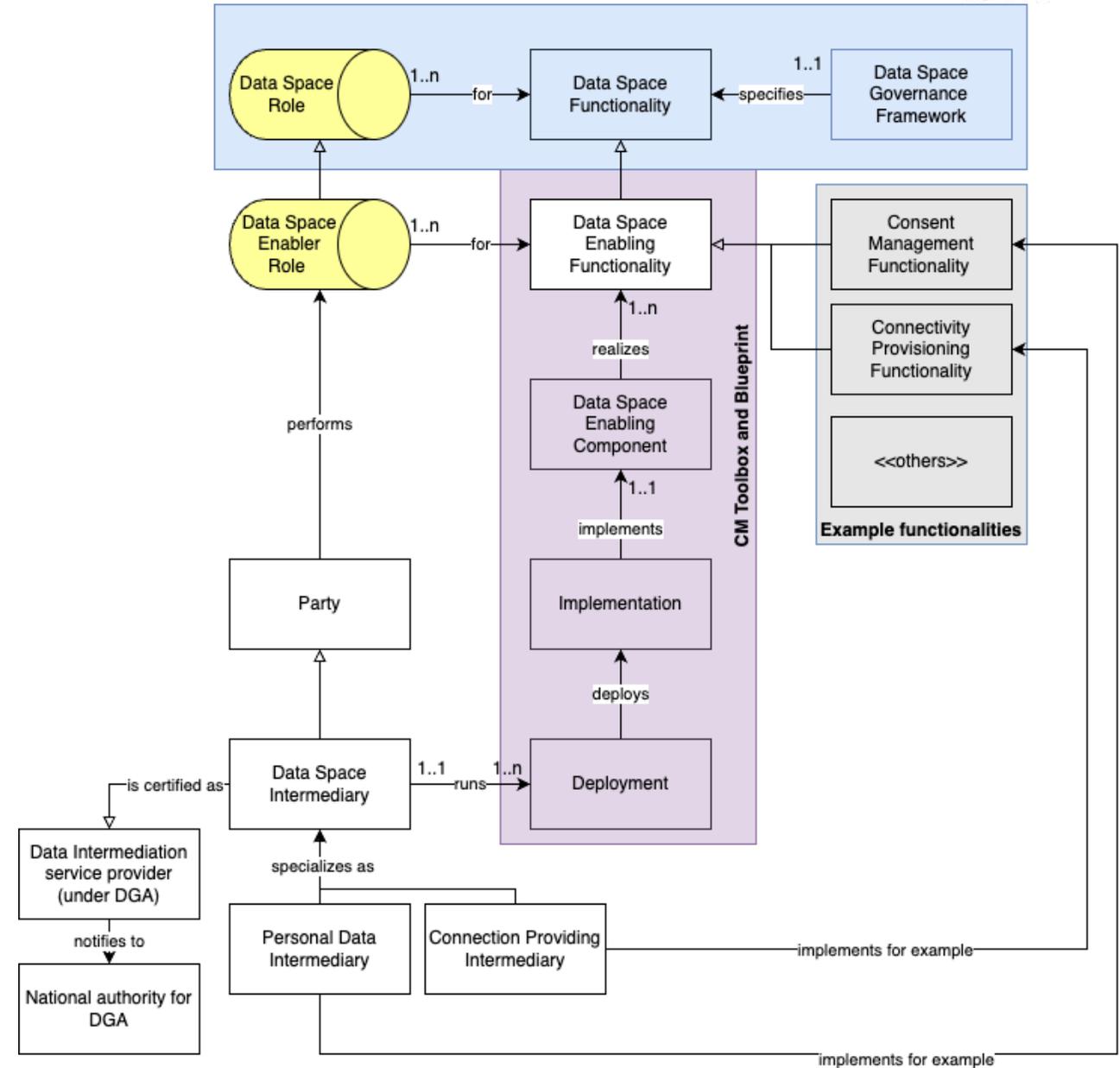


# Drill down in conceptual levels





- Roles
- Enabling functions
- Intermediaries



# Blueprint Version 1.0 - The building blocks you need

Matthijs Punter and Claire Stolwijk, TNO

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# Why a Blueprint for Data Spaces?



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Take-off &  
get to a higher flight level



**Faster**

Protect your investment



**Future proof**

Achieve synergies between  
data spaces



**Federations**

# Evolution



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Organisational and Business Building Blocks		
<b>Business</b>	<b>Governance</b>	<b>Legal</b>
Business Model Development	Organisational Governance	Regulatory Compliance
Use Case Development	Data Sharing Governance	Contractual Framework
Data Product Development		
Data Space Intermediary		

Technical Building Blocks		
<b>Data Interoperability</b>	<b>Data Sovereignty &amp; Trust</b>	<b>Data Value Creation</b>
Data Models	Access & usage policies and control	Data, Services and Offerings descriptions
Data Exchange	Identity Management	Publication and Discovery
Provenance & traceability	Trust	Marketplaces

the Single European Market in which data can be exchanged to ensure Europe's global competitiveness and data sovereignty. The European Commission is investing in common European standards, legal and governance frameworks, and innovati...

2024 ...

INTEROPERABILITY	TRUST	DATA VALUE	GOVERNANCE
Data Models & Formats	Identity management	Metadata & Discovery Protocol	Overarching cooperation agreement
Data Exchange APIs	Access & usage control / policies	Data Usage Accounting	Operational (e.g. SLA)
Provenance and traceability	Trusted Exchange	Publication & Marketplace Services	Continuity model

# Blueprint → Building Blocks



## Building blocks

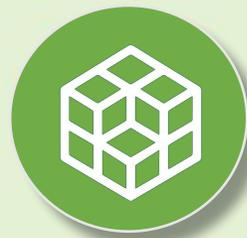
Business &  
Organisational

Technical

- ✓ Required capabilities
- ✓ Core design decisions
- ✓ Specifications & common standards
- ✓ Further reading



# Business and Organisational



## Business and organisational building blocks



### Business

Business model development

Use case development

Data product development

Data space intermediary



### Governance

Organisational form and governance authority

Participation management



### Legal

Regulatory compliance

Contractual framework

# Business building blocks



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What is it?

What is the aim?

**Business model development**

**Approach for value creation**

**Develop a business model based on:**

- Guidelines to the customer journey
- Revenue and costs models

**Use case development**

**Setting to create value from data sharing**

**Explore, develop and onboard use cases based on:**

- Templates, scenario's, ensuring synergies

**Data product development**

**Consumable bundle of resources for value creation in use cases**

**Create data product offerings based on:**

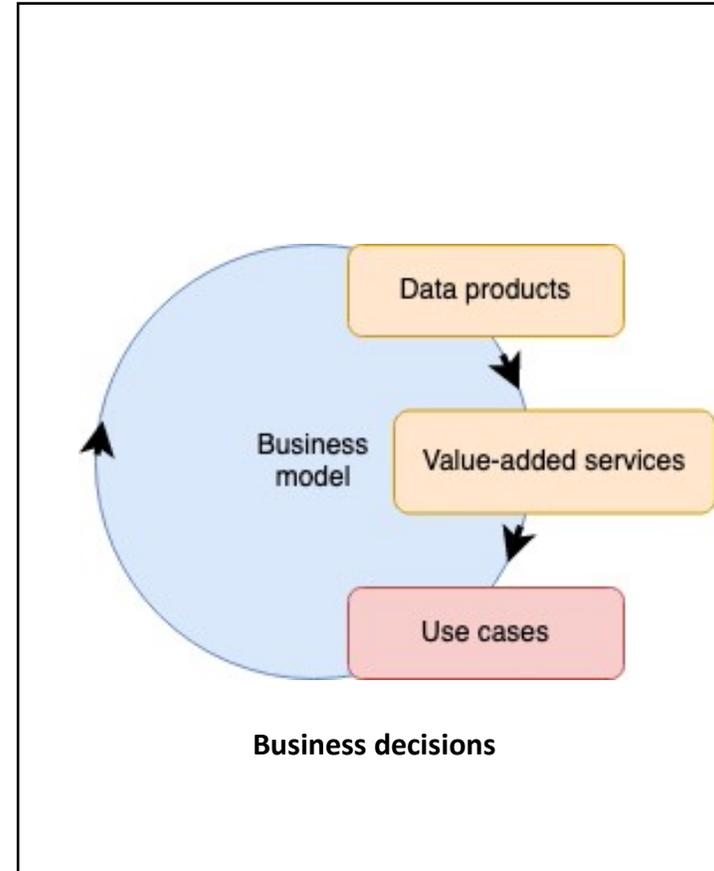
- Templates to create data products
- Governance rules and principles (e.g. data quality and security)

**Data spaces intermediary**

**Optional participant providing enabling services**

**Initiating a data space intermediary offering enabling services (e.g. identity management) based on:**

- 4 generic models & guidelines



# Governance building blocks



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What is it?

What is the aim?

Organisational form  
and governance  
authority

Organisation form  
and responsible(s)  
for the governance  
framework

**Develop the organisation form & governance authority (GA) based on:**

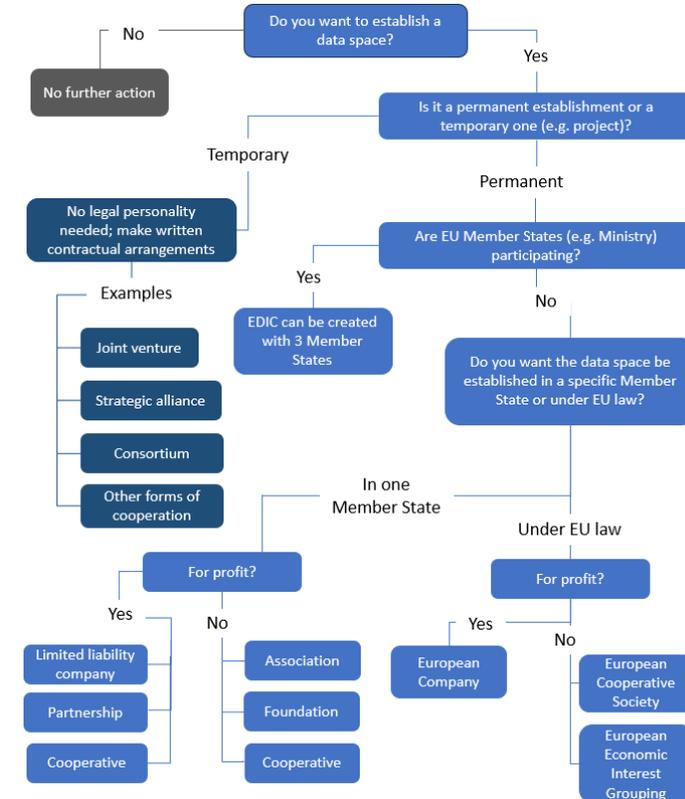
- Guidelines on the impact on the GA

Participation  
management

Governance  
processes for  
participation

**Defining the participants and enabling their on/offboarding based on:**

- Clear criteria for admission and continued participation & specifications of roles



**Decision tree on organising & establishing a data space**

# Legal building blocks

What is it?

What is the aim?

Regulatory compliance

Ensure adhering to the law

**Becoming legally compliant by guiding:**

- On relevant EU legislation
- On roles and responsibilities

Contractual framework

Legally enforceable agreements

**Develop legally enforceable agreements :**

- 1. Data space agreements and 2. transaction agreements

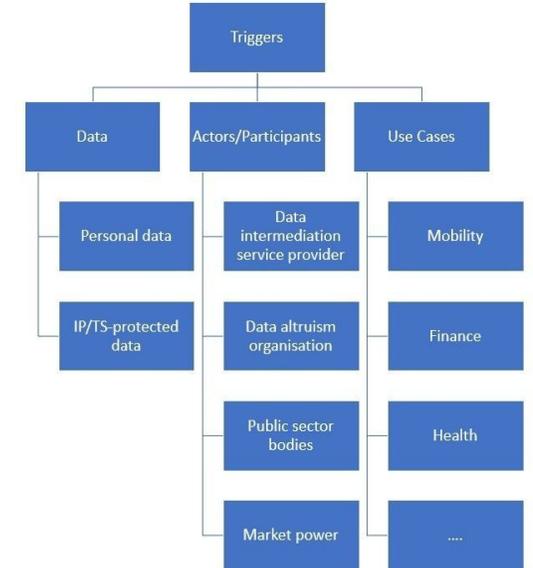
**Contractual Framework**

**Data space agreements**

- Constitutive agreement
- General Terms and Conditions
- Accession Agreement
- Agreements related to enabling services

**Data transaction agreements**

- Data contract(s)



**Examples of related legislation;**

- **Data:**
  - Personal data: GDPR, e-Privacy Directive
  - IP/TS protected data : Copy write law, Trade secret protection
- **Actors/Participants:**
  - Data intermediation service provider: DGA
  - Data Altruism org: DGA, GDPR
  - Public sector bodies: Open Data Directive
  - Market Power: 101 TFEU, 102 TFEU.

**Overview of data space triggers that link to EU legislation**

# What's new 1.0



## Business and organisational building blocks



### Business

- ✓ Visual overview of business ingredients
- ✓ Guidelines & templates to take business decisions



### Governance

- ✓ ~~Organisational governance~~ → Organisational form and governance authority
- ✓ ~~Data-sharing governance~~ → Participation management
- ✓ Decision tree to organise and establish a data space
- ✓ Guidelines on/offboarding of participants



### Legal

- ✓ Regulatory compliance checklist for data spaces
- ✓ Contractual framework for agreements:
  - Among participants
  - On data transactions

**+ More details & practical guidelines!**

# Technical Blueprint



## Technical building blocks



### Data interoperability

Data models

Data exchange

Provenance and traceability



### Data sovereignty and trust

Identity and attestation management

Trust framework

Access and usage policies enforcement



### Data value creation enablers

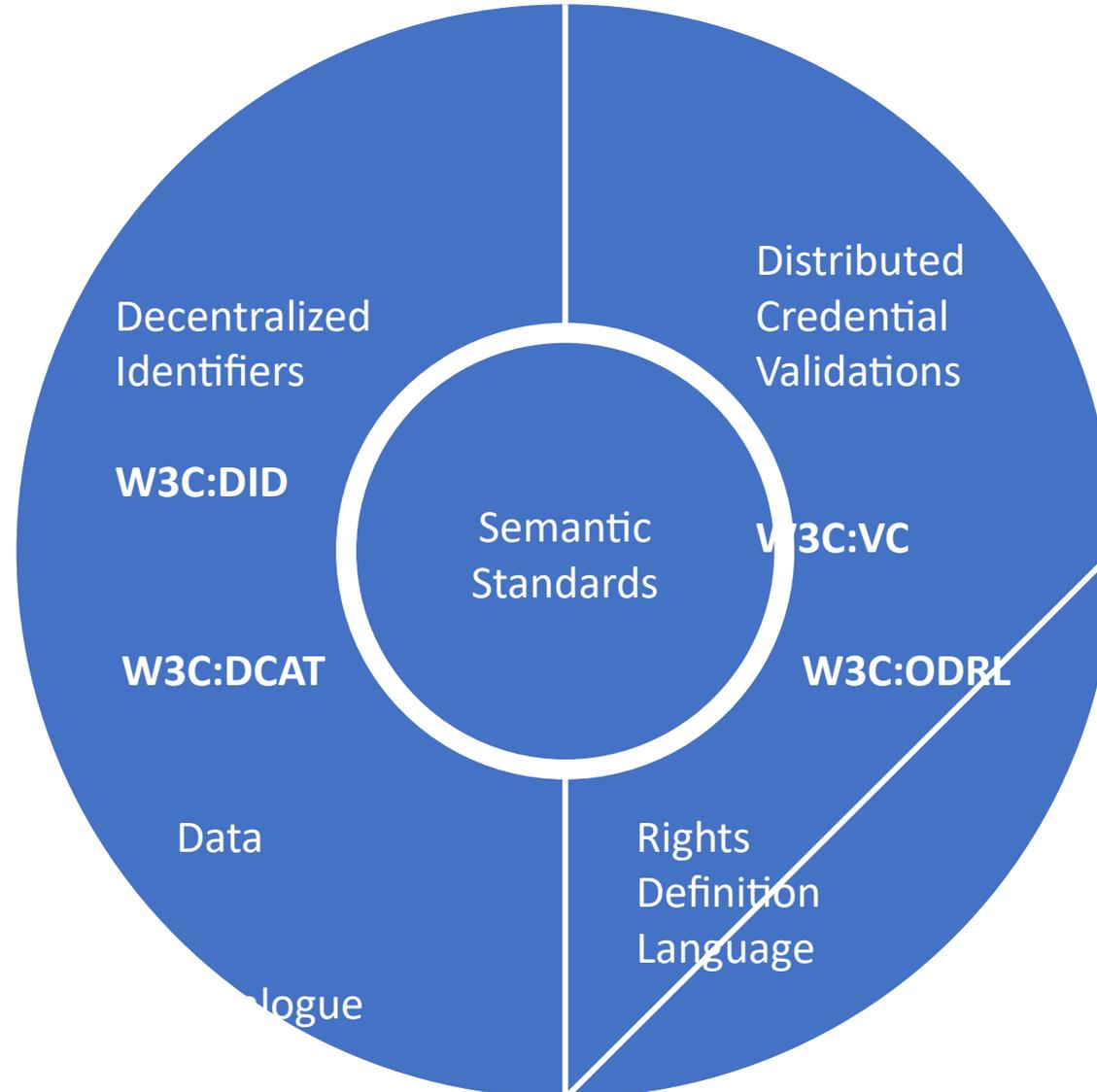
Data services and offerings descriptions

Publication and discovery

Value added services



# Foundational standards

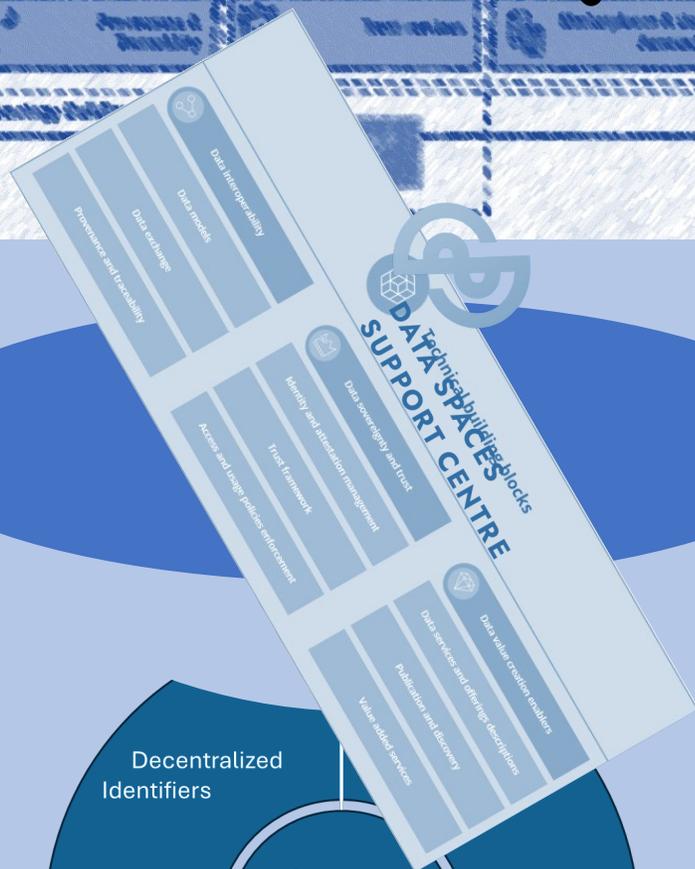




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**Data Space specific  
rulebooks/blueprints/agreements**

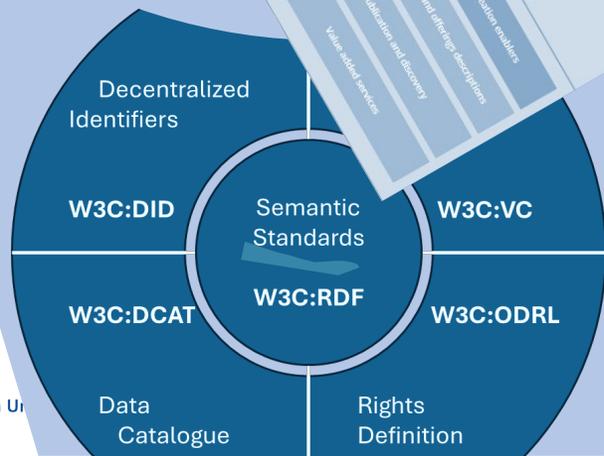
*Your blueprint, your specifications*



**DSSC Blueprint + frameworks of standards**

Dataspace Protocol

Trust Framework



**Foundational global standards**

# What's new **1.0**



## Technical building blocks



### Data interoperability

- ✓ **Vocabulary Hub** for common data models
- ✓ Approaches for **provenance & traceability**



### Data sovereignty and trust

- ✓ Attestation & Identity Management based on **W3C Verifiable Credentials** (SSI)
- ✓ Role of Trust Frameworks
- ✓ Access and usage policies based on **W3C ODRL**



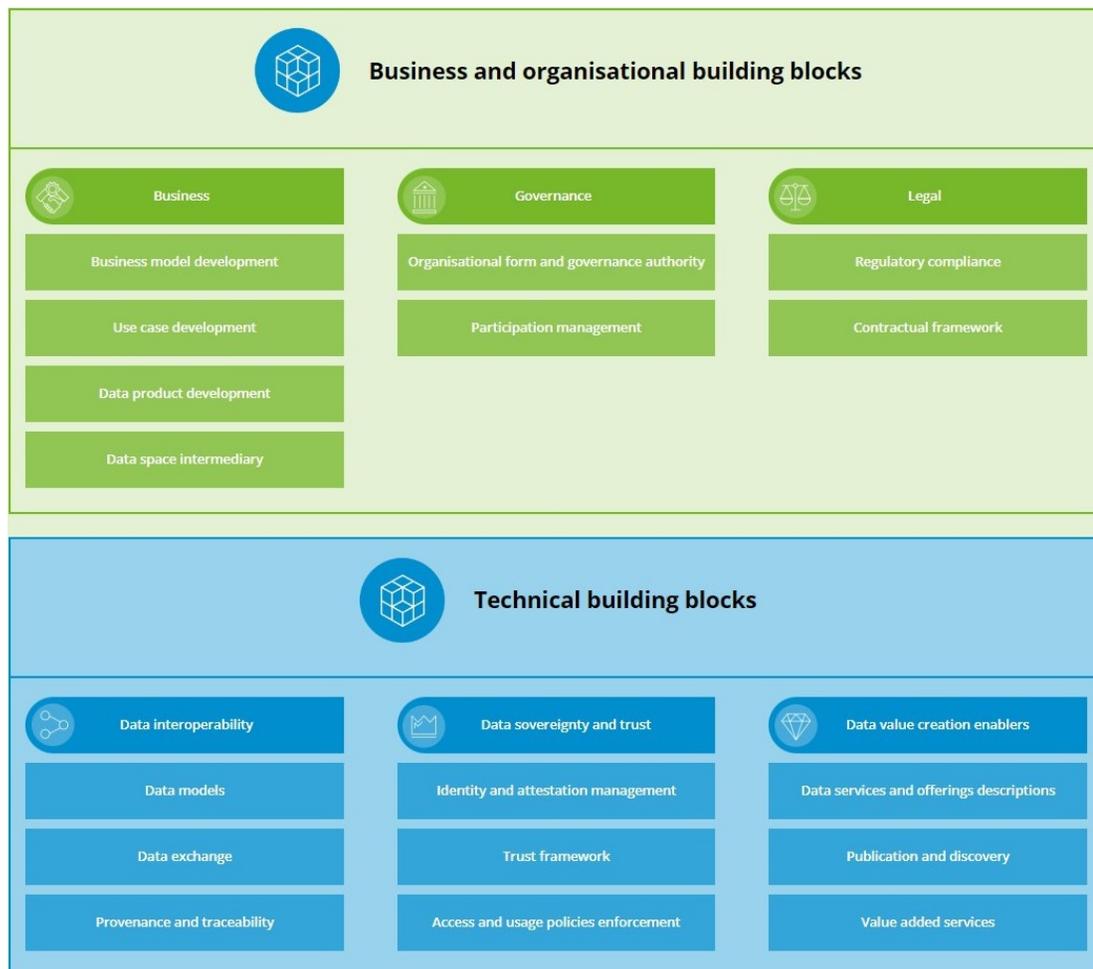
### Data value creation enablers

- ✓ Usage of **DCAT** for specifying data products & services
- ✓ Role of **Value Added Services** in a data space (not only marketplaces!)





# Navigating the Blueprint



# The Co-Creation Method



You want to build a data space: where to begin?

Building a data space is often a collaborative process

Not every building block is needed at the same time: modularity

Build on the DSSC results



Critical mass of committed partners

Plan and resources to start a data space pilot

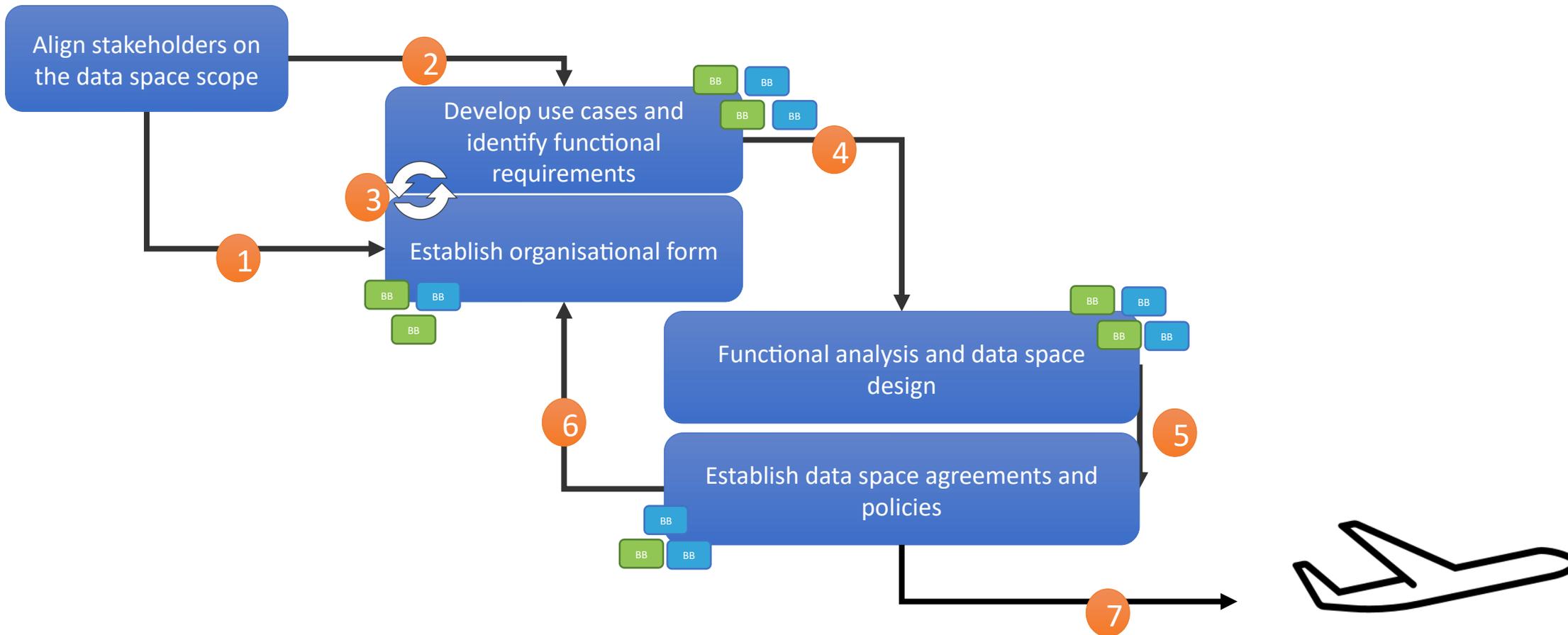
First data space use case becomes operational

Exploratory Stage

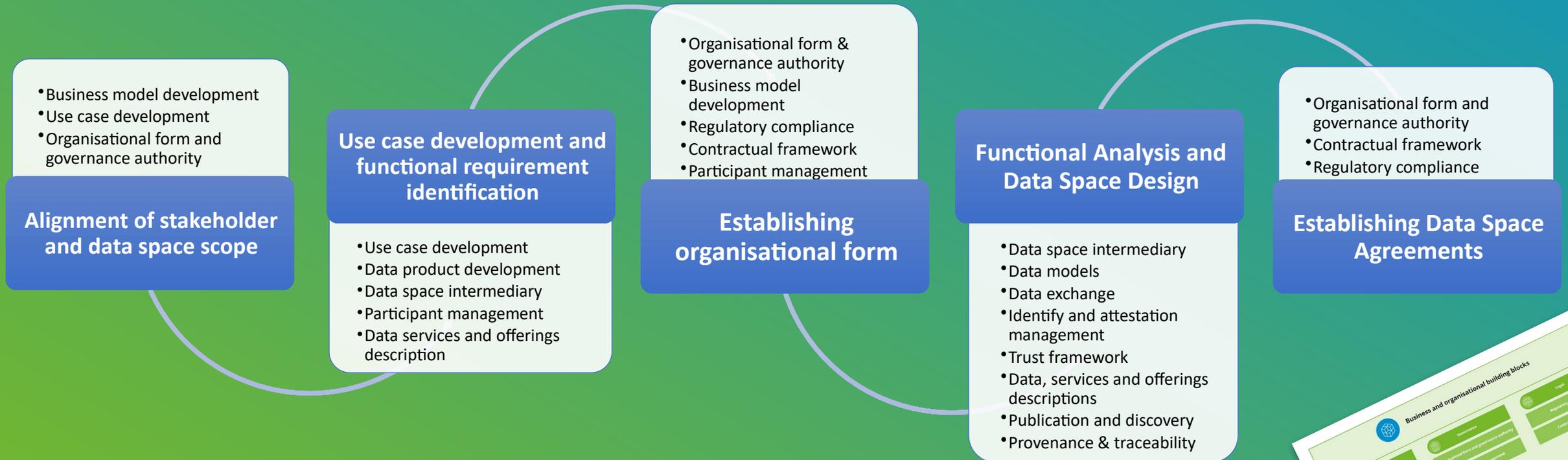
Preparatory Stage

Implementation Stage

Operations



# Building Blocks in each step of the Co-Creation Method



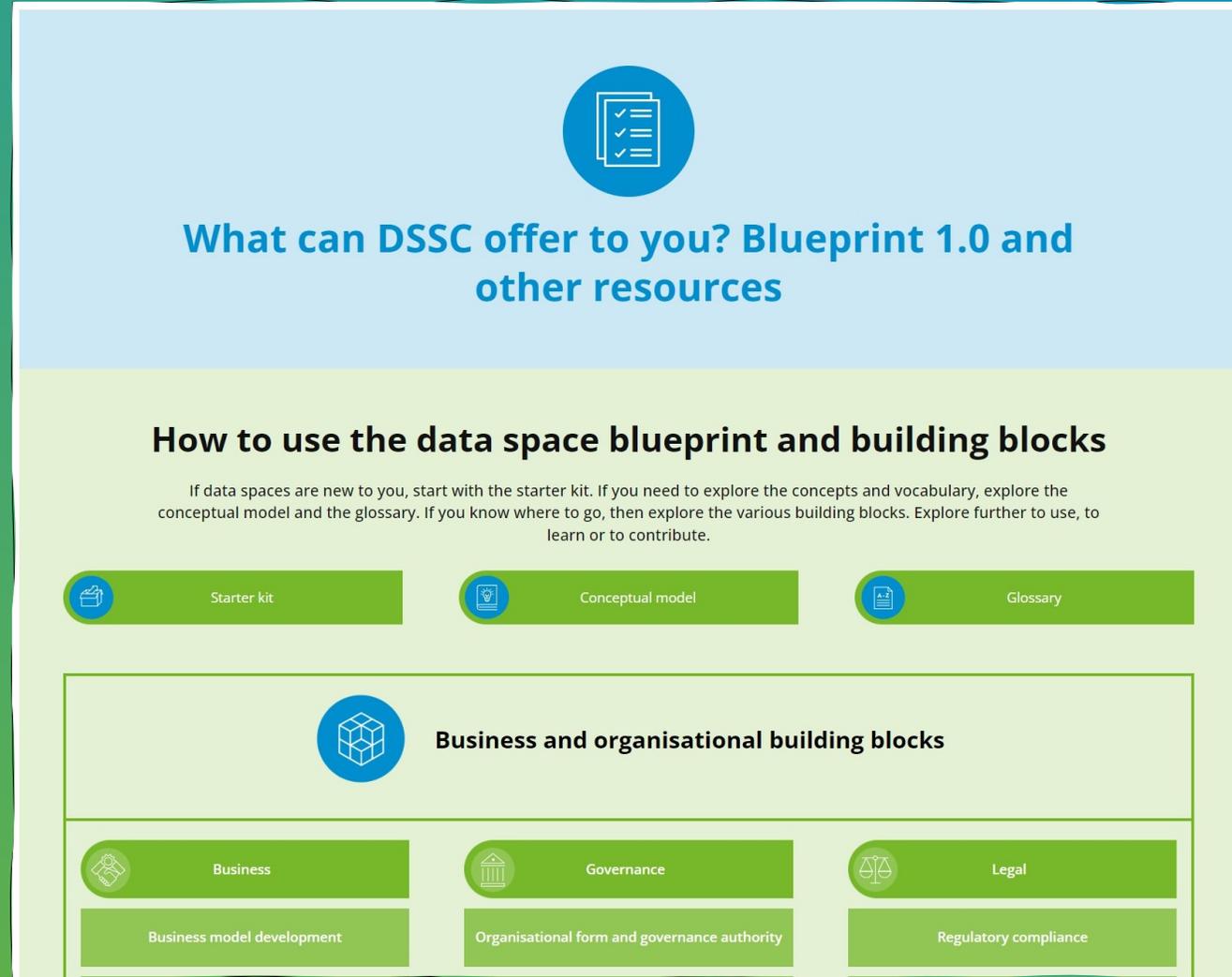
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# Connect, use and contribute

Use the DSSC Blueprint to develop or enhance the rulebook of your own dataspace

“Comply or explain” + Contribute!



  
**What can DSSC offer to you? Blueprint 1.0 and other resources**

**How to use the data space blueprint and building blocks**

If data spaces are new to you, start with the starter kit. If you need to explore the concepts and vocabulary, explore the conceptual model and the glossary. If you know where to go, then explore the various building blocks. Explore further to use, to learn or to contribute.

 Starter kit     Conceptual model     Glossary

 **Business and organisational building blocks**

 Business     Governance     Legal

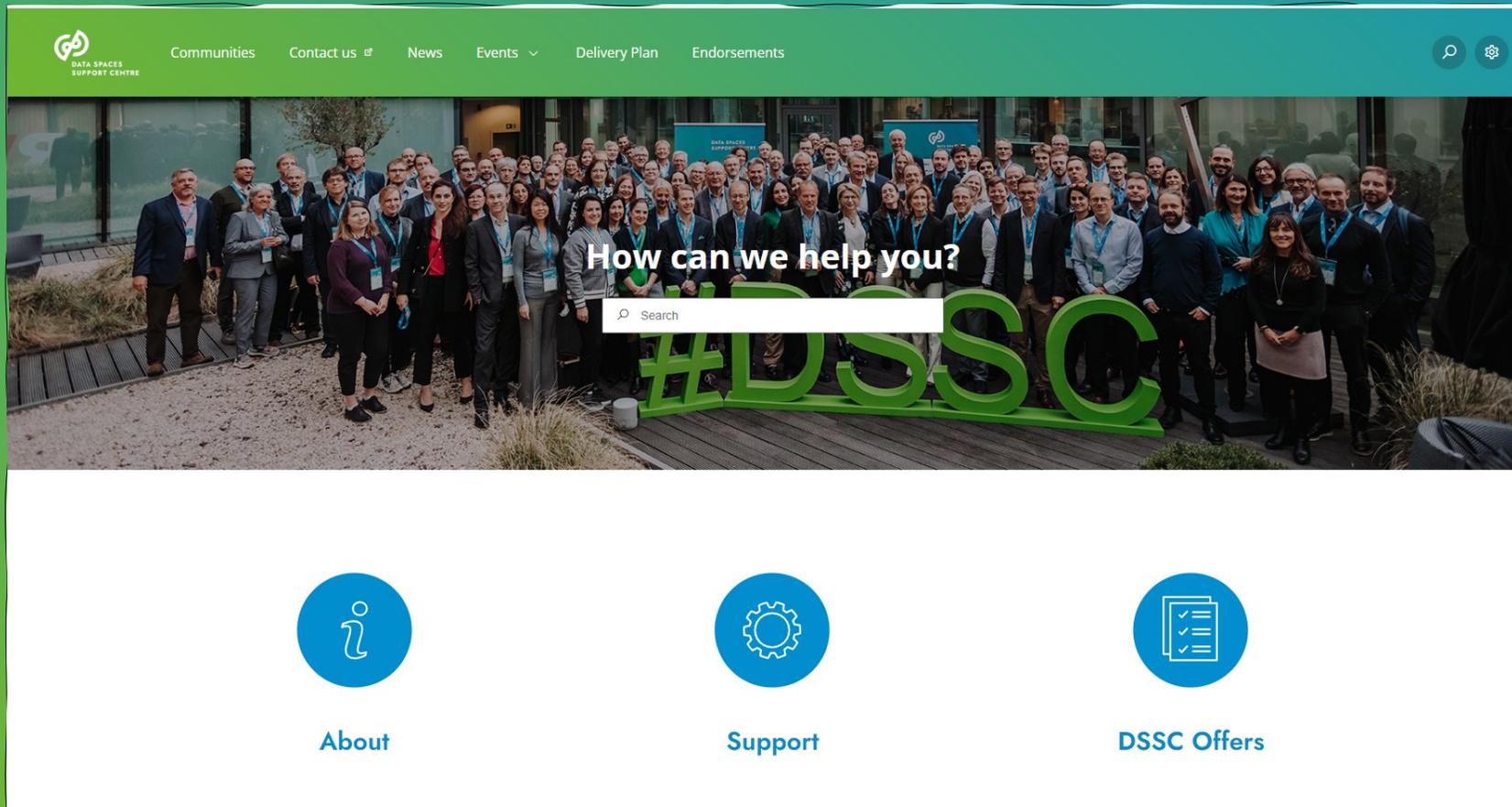
Business model development    Organisational form and governance authority    Regulatory compliance

# Data Spaces Support Centre

www.dssc.eu



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# Q&A Session

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