DATA SPACES SUPPORT CENTRE

Technical Common Grounds for Smart and Sustainable Cities' Data Space

11th September 2023

DSSC assets

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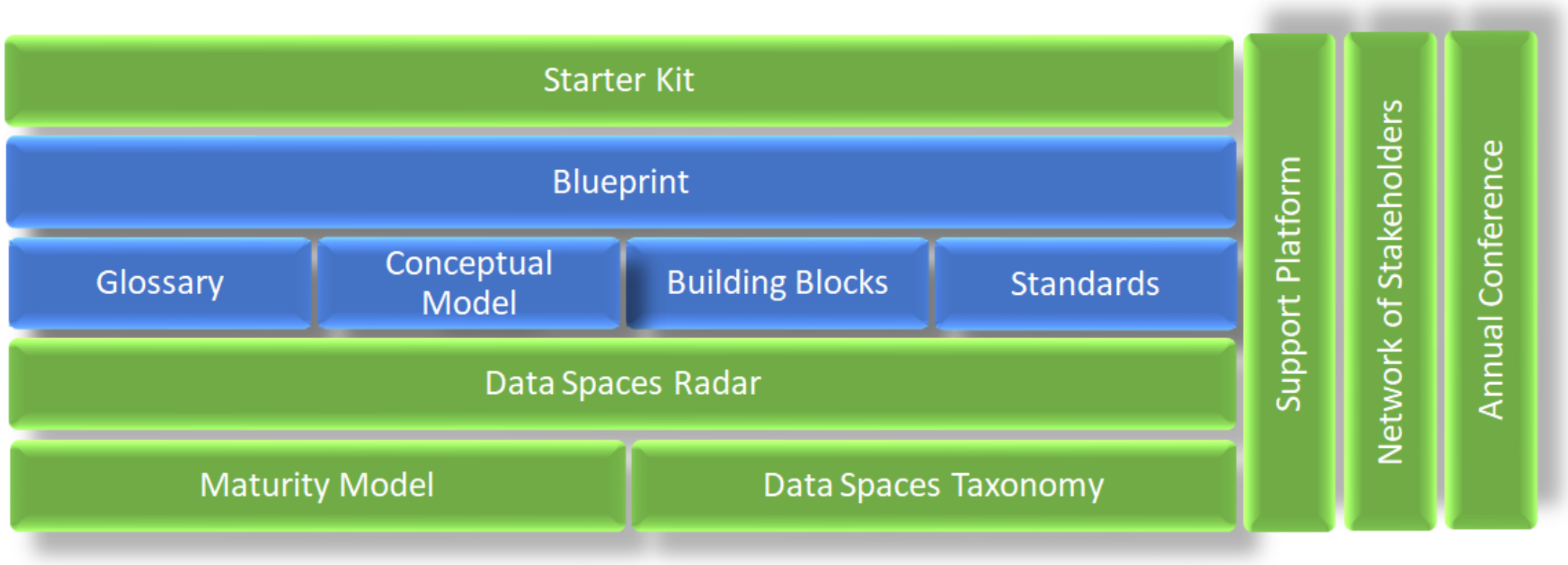

DELIVERY PLAN

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DSSC Asset Model

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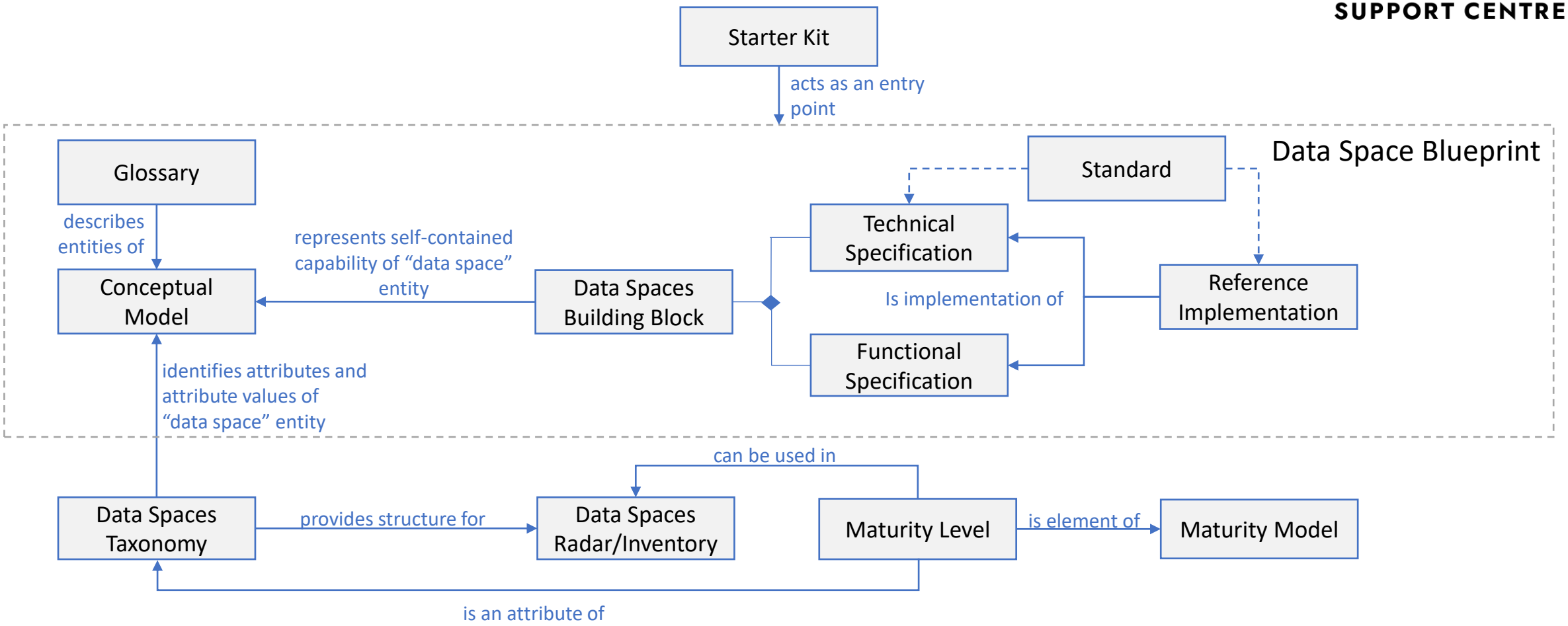

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Blueprint at the core

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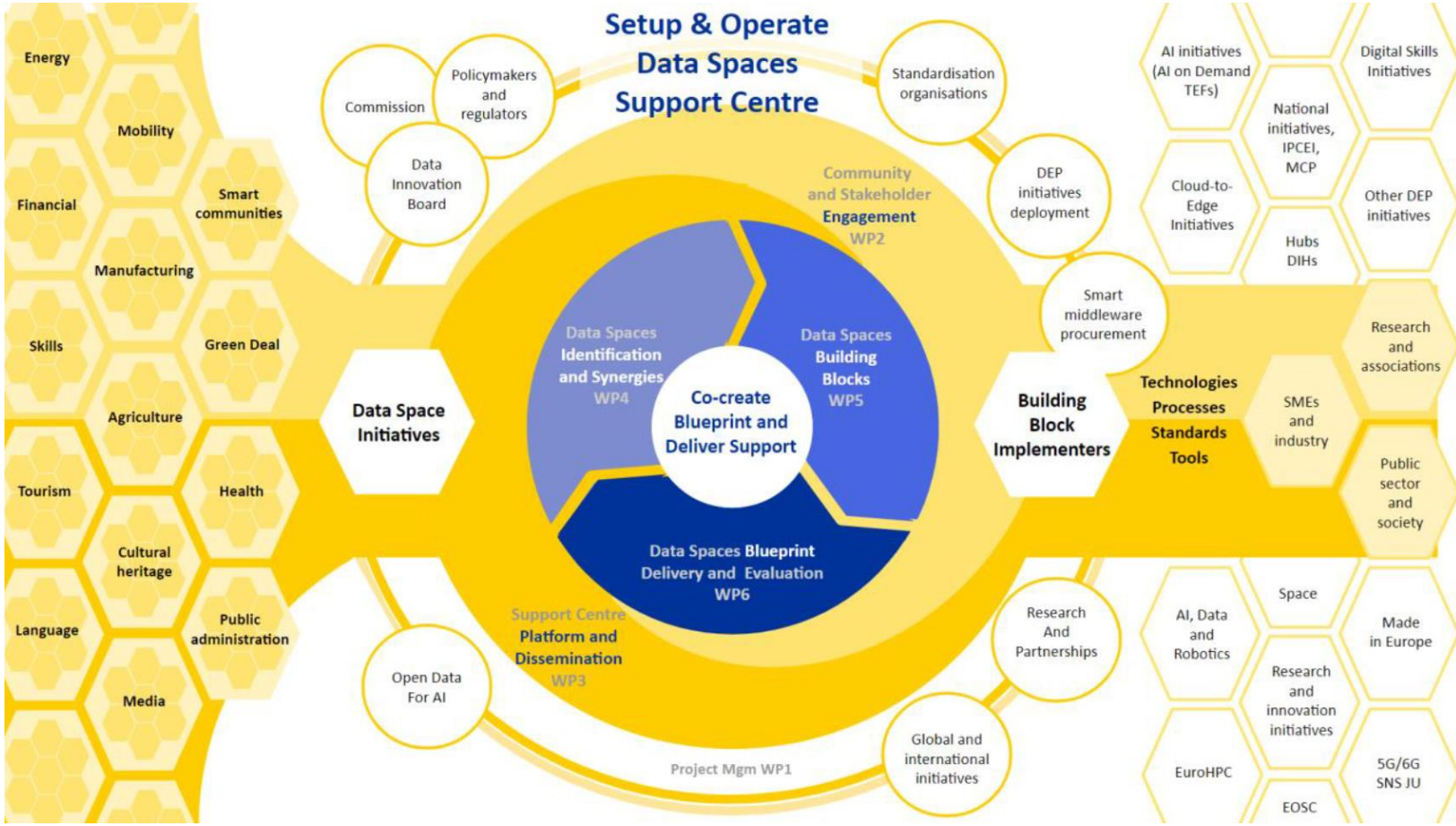

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Blueprint

Data Spaces Blueprint Structure

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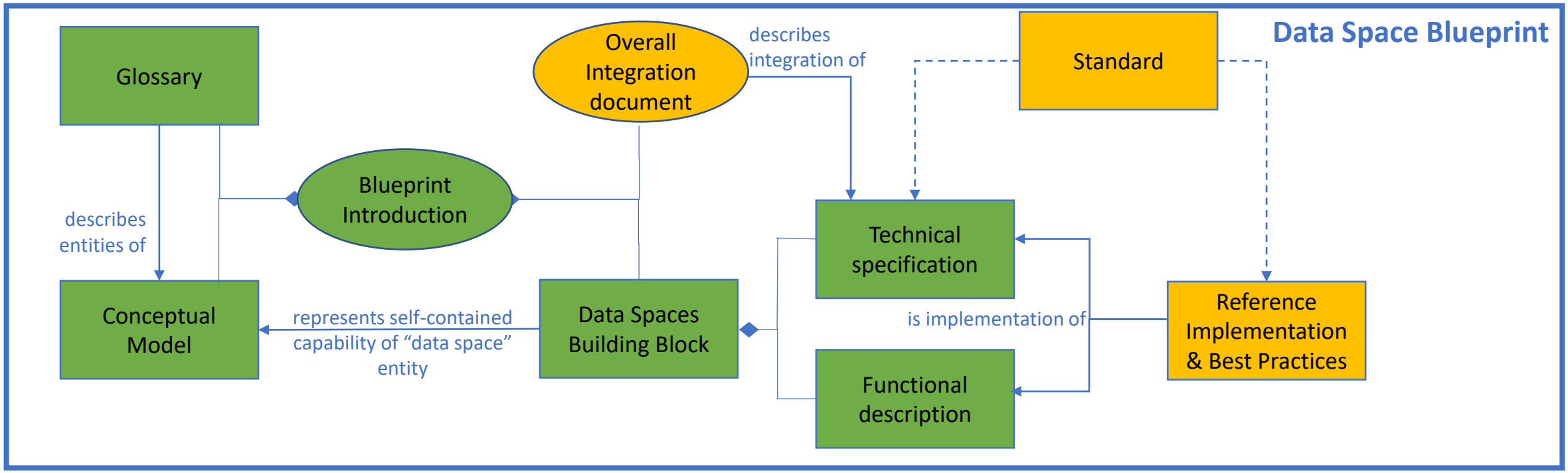

V0.5 – Publication: September 2023

V1.0 – Publication: April 2024

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DSSC approach

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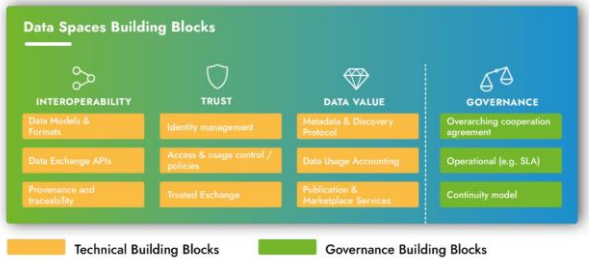
- We started using the OpenDEI building block model (Starter Kit)
- We positioned the business, governance and legal aspects more clearly
- We used inputs from our community and with updated the collection of building blocks
- We used the latest insights from work on technological convergence (e.g. DSBA Technical Convergence document)
- We incorporated insights from relevant projects and initiatives



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Two categories of Building Blocks

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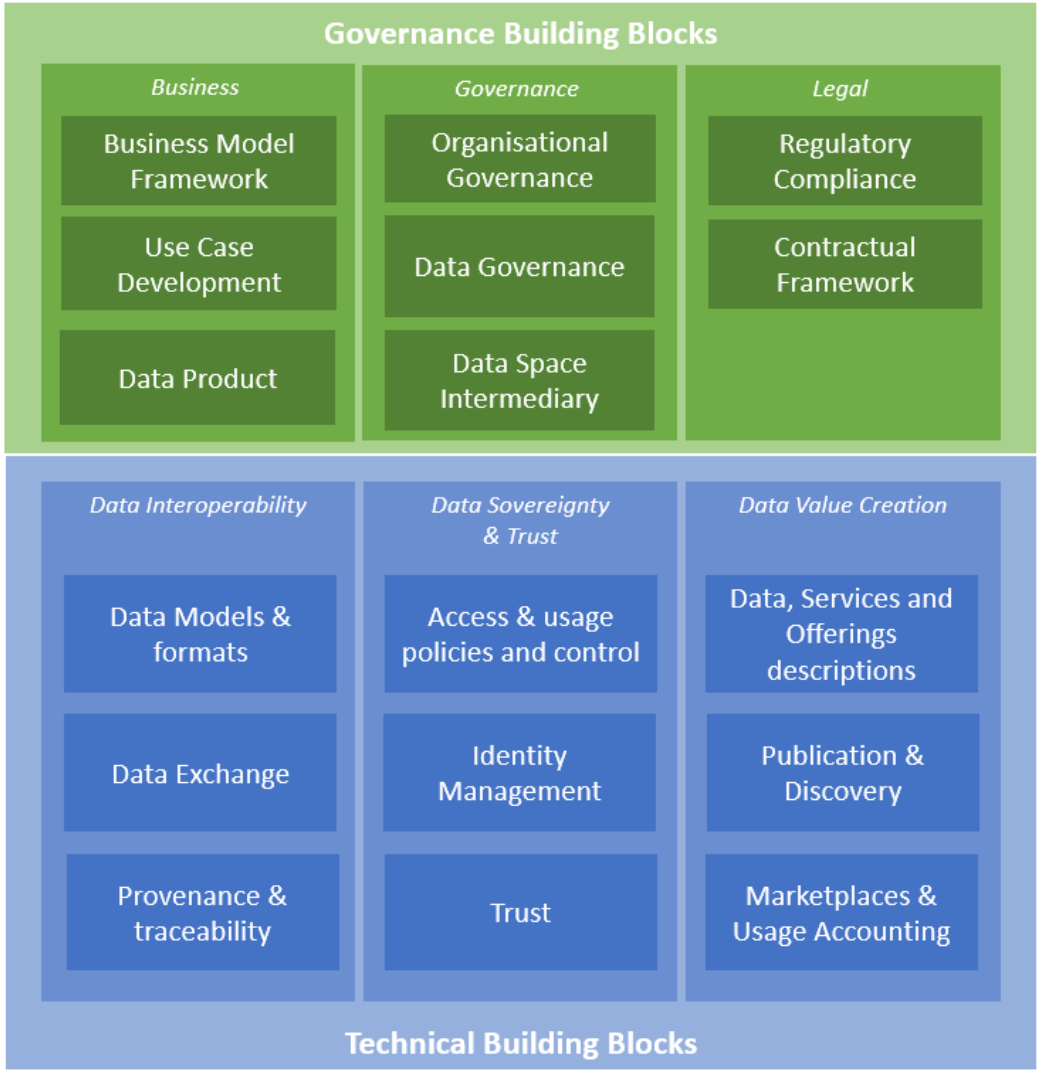
1. **Governance building blocks**

   These describe capabilities needed on a business level.

2. **Technical Building Blocks**

   These describe capabilities needed on a technical level.

   Data Interoperability
   Data Sovereignty & Trust
   Data Value Creation



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Services to implement (technical) capabilities

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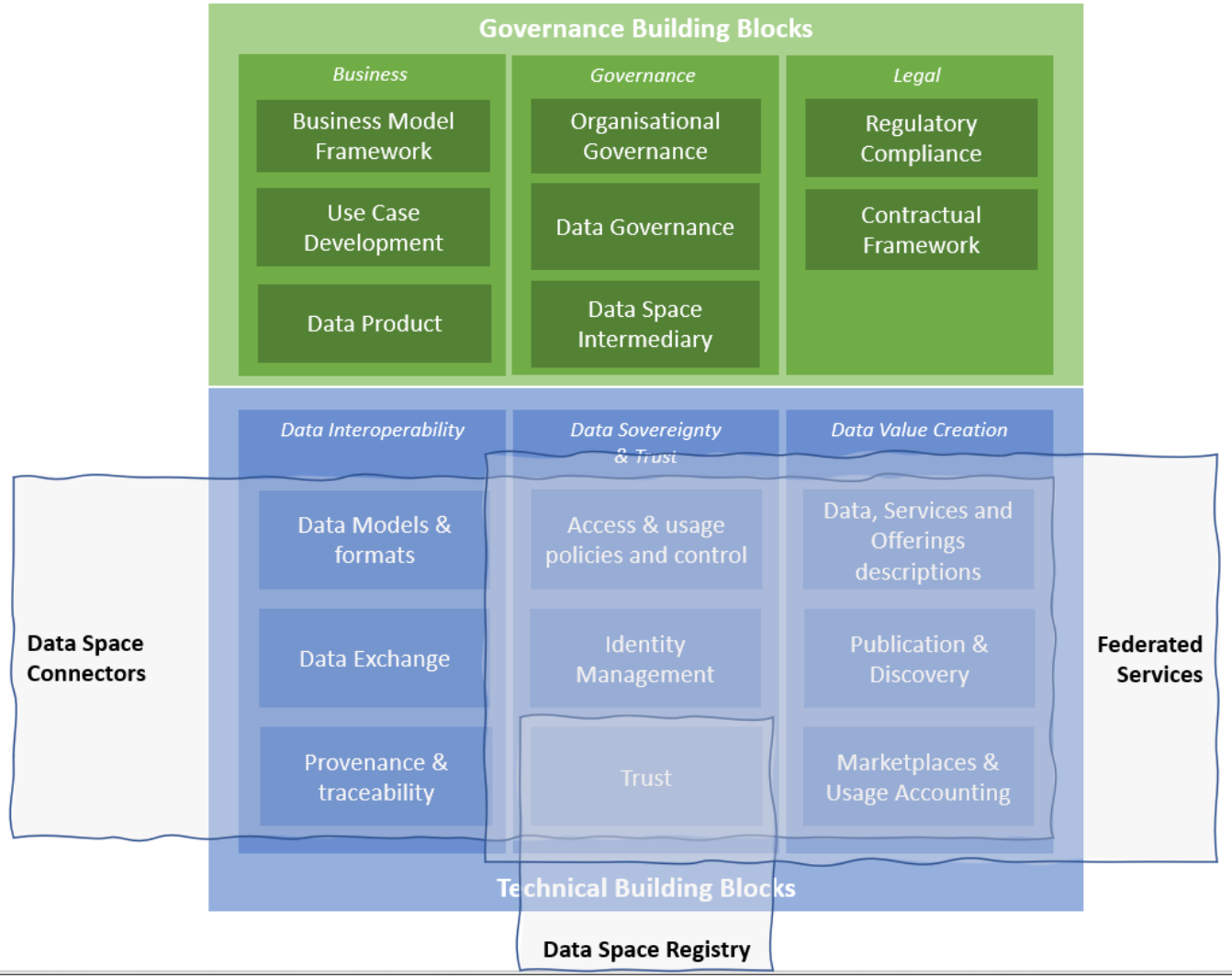
- Not to be confused with building blocks, but very relevant for implementing data spaces.
- **Data Space Connectors**
- **Data Space Registry**
- **Federated Services**



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How to use the Blueprint

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- When posible follow the proposed structure in your data space
- Do the mapping between your building blocks and DSSC ones
- Identify missing or incomplete functionalities
  - Specific for your domain – refer to the DSSC building block that you are extending in your domain
  - Relevant for other domains – propose the addition to the DSSC to be incorporated to the DSSC taxonomy
- Keep updated about future releases
- Propose implementations (upcoming)

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Collection of Standards and Technology Landscape

The asset

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Description	Structure	Format	Users
• A map of existing de-facto/de-jure standards and open source reference implementations to be candidates for the technical descriptions of the Building Blocks in the Blueprint	• The included items are classified by category and building block following the current BBs taxonomy • Other info: publisher, link to source, type of standard, status and assessment.	• Online spreadsheet • Dedicated space in DSSC platform	• **Experts Groups** – BBs technical specifications • **Data Space Initiatives** – cross domain standards • **European Commission** – standardization requests • **Research&Industry community** – follow commonly adopted standards

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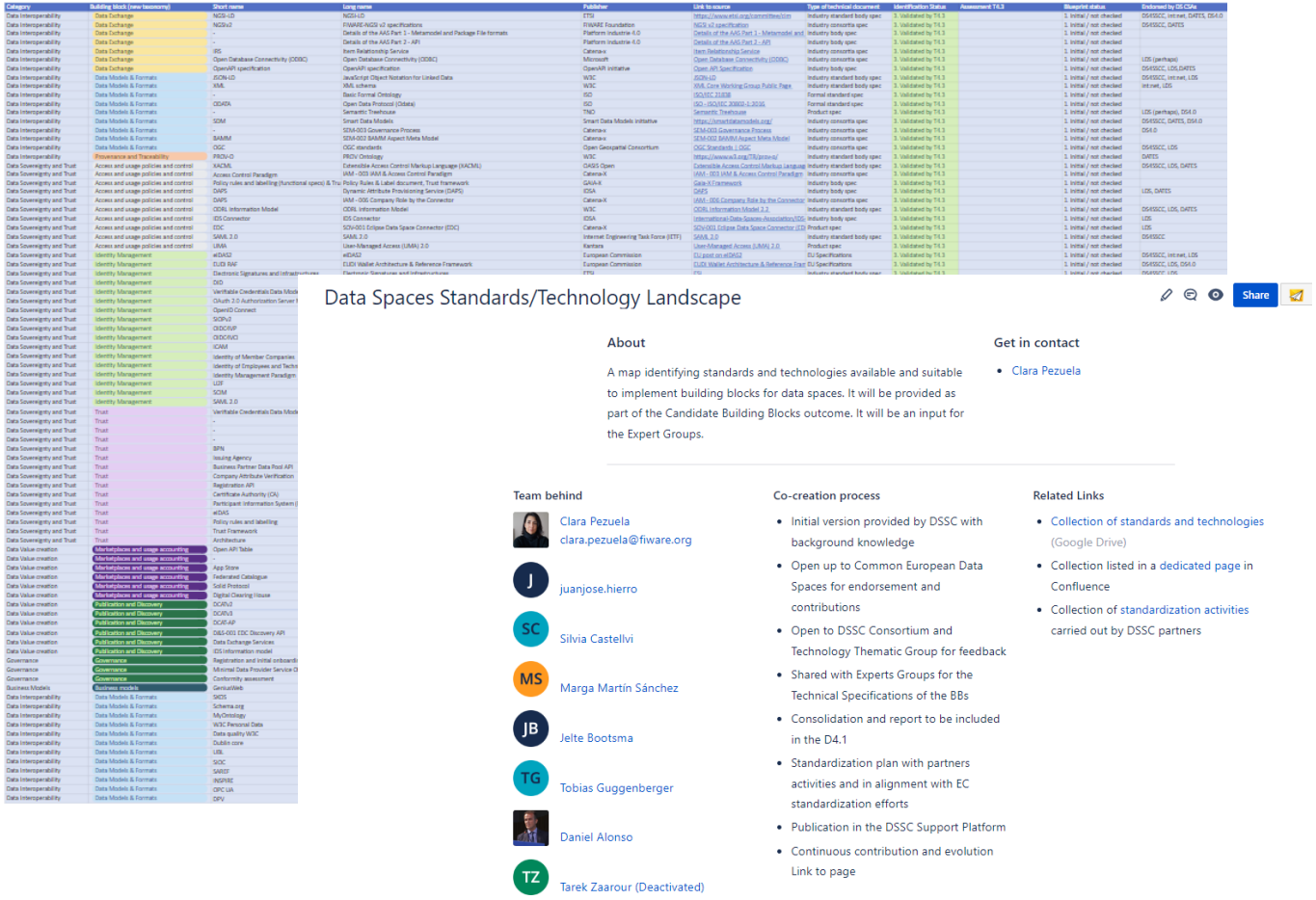
The collection



Data Spaces Standards/Technology Landscape

Share

About

A map identifying standards and technologies available and suitable to implement building blocks for data spaces. It will be provided as part of the Candidate Building Blocks outcome. It will be an input for the Expert Groups.

Get in contact

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Team behind

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Tobias Guggenberger

Daniel Alonso

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Co-creation process

- Initial version provided by DSSC with background knowledge
- Open up to Common European Data Spaces for endorsement and contributions
- Open to DSSC Consortium and Technology Thematic Group for feedback
- Shared with Experts Groups for the Technical Specifications of the BBs
- Consolidation and report to be included in the D4.1
- Standardization plan with partners activities and in alignment with EC standardization efforts
- Publication in the DSSC Support Platform
- Continuous contribution and evolution Link to page

Related Links

- Collection of standards and technologies (Google Drive)
- Collection listed in a dedicated page in Confluence
- Collection of standardization activities carried out by DSSC partners

Created in co-creation with all data spaces initatives and stakeholders (9 data spaces so far)

Online spreadsheet for internal management

Asset space in Confluence (for registered users) – for sharing and feedback of the community

To be published in the web site in October 2023

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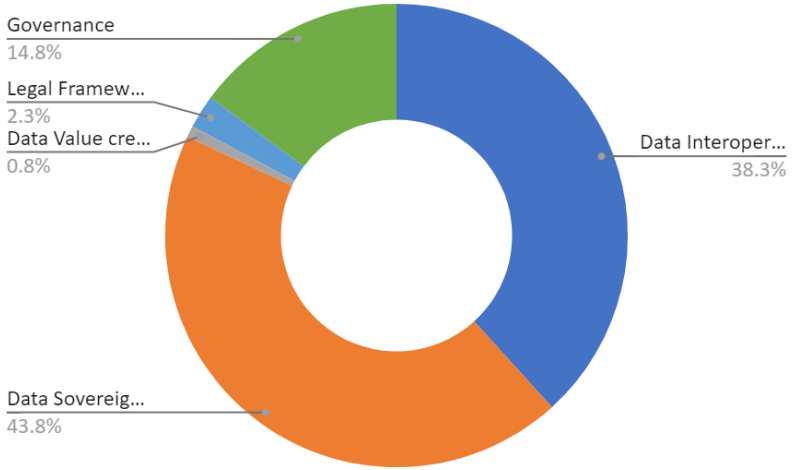
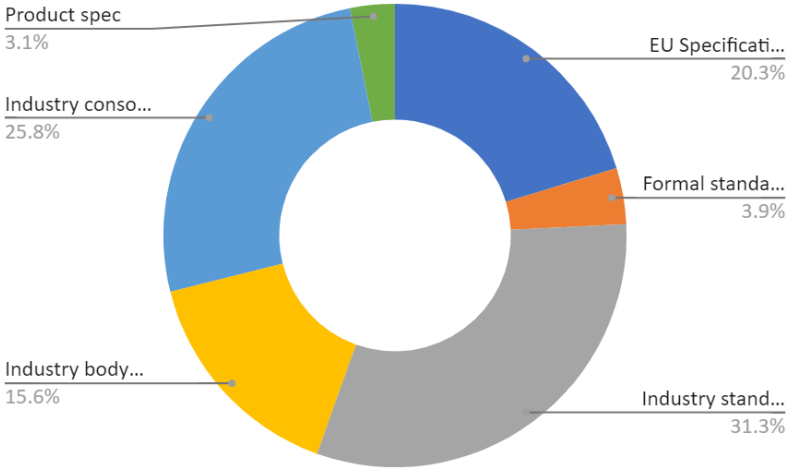
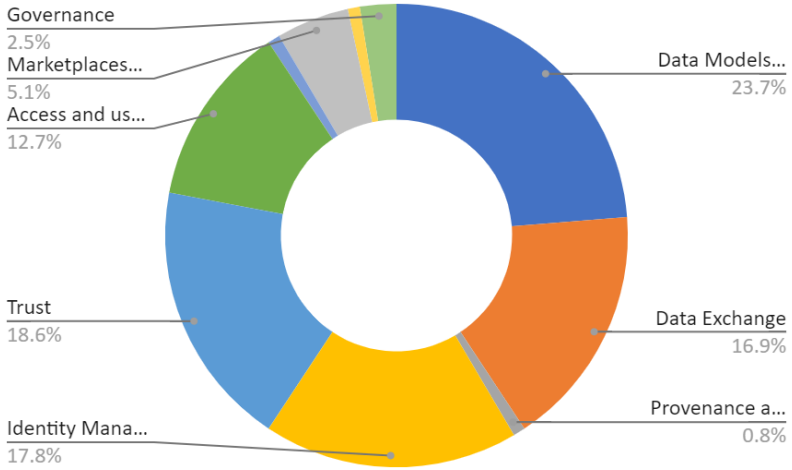
The analysis

- 128 candidate standards (Sep 2023)
- Most numerous standards are coming for:
  - **Category**: “Data Sovereinty & Trust (43.8%)” and “Data Interoperability (38.3%)”
  - **Building Blocks**: “Data Models&Formats (23.7%)”, “Trust (18.6%)”, “Identity Management (17.8%)” and “Data Exchange (16.9%)”
  - **Type of standard**: “Industry standard body (31%)”, “Industry consortia (25.8%)”, “EU Specifications (20.3%)” and “Industry body (15.6%)”







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How to use the standards collection

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- Check proposed standards and identify which ones are useful in your domain
- Propose additional standards can be used in Technical Specifications of data space components
  - For all domains
  - Specific for your domain
- Keep informed about recommended standards to foster interoperability (upcoming)

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Glossary

DSSC approach

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- In co-development with data spaces
- Common vocabulary for DSSC publications and communications
- Terms are provided with a criterion and definition
  - Same term may have different meanings in different contexts
- Others may keep their own terminology
- Adopting definitions from EU legislation and international standards, when possible
- Working document to build the v2.0 – v1.0 available in DSSC web site

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How to use the Glossary

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- When using a term, check DSSC Glossary and try to use if meaningful in your context
- If you are using your own terminology, try to find the correspondance with DSSC Glossary looking at the definition
- If you disagree with some definition or would like to propose some input, use the working document and propose!

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Conceptual Model

Conceptual vs Architecture model

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Conceptual Model

- Define and organize the fundamental **concepts** and terms associated with data spaces.
- Using standardized **vocabulary** (Glossary) that ensures clear communication and shared understanding among stakeholders.
- **Categorizing** these terms for consistent interpretation and lower ambiguity when discussing data spaces across different contexts.

Architectural Model

- **Structural and organizational** aspects of data spaces.
- **High-level representation** of the components (grouped as building blocks), relationships, and interactions within a data space.
- **Conceptual design, principles, and patterns** underlying the data space's functionality.
- It allows stakeholders to **grasp the overall structure and behavior** of a data space, facilitating efficient planning, development, and implementation of data space initiatives.

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Benefits of our Modelling Approach

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Clarity and Consistency

Scalability and extensibility

Interoperability

Documentation and Understanding

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Purpose of the Conceptual Model

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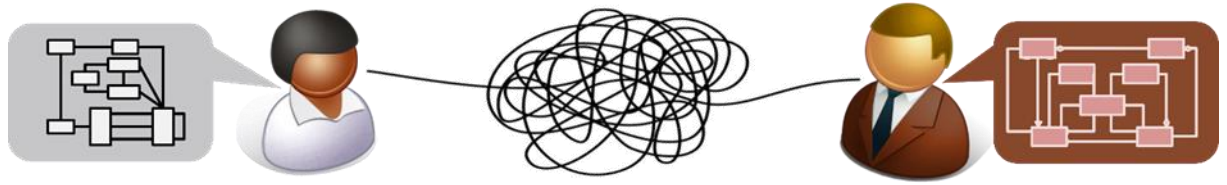
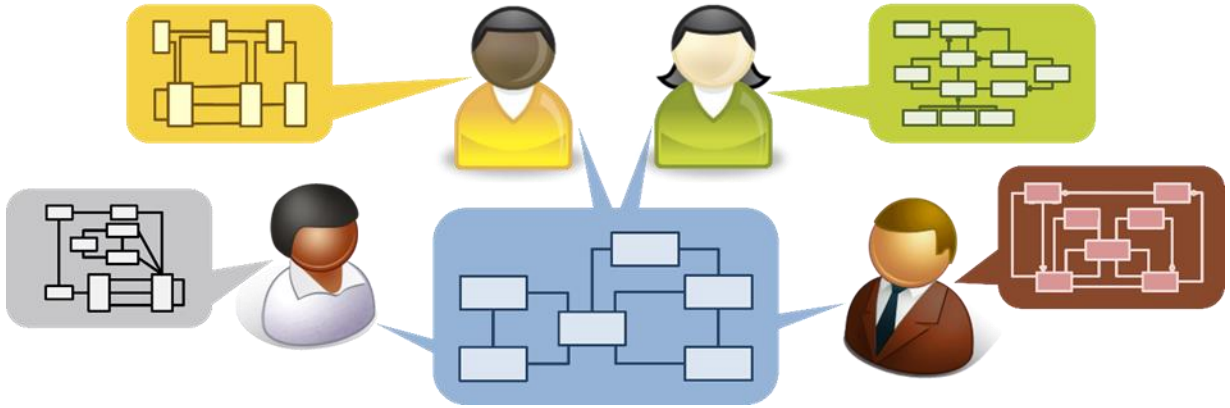
- Provide a well-defined language
  - to precisely define concepts and terms
  - to express what we like the readers to understand
  - to ensure that all produced documentation is coherent and consistent



- Provide a high-level view of what a data space is
  - to highlight the basic components and ideas
  - to serve as an anchor for further developing architectural views, business and legal views



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Structure of the Conceptual Model

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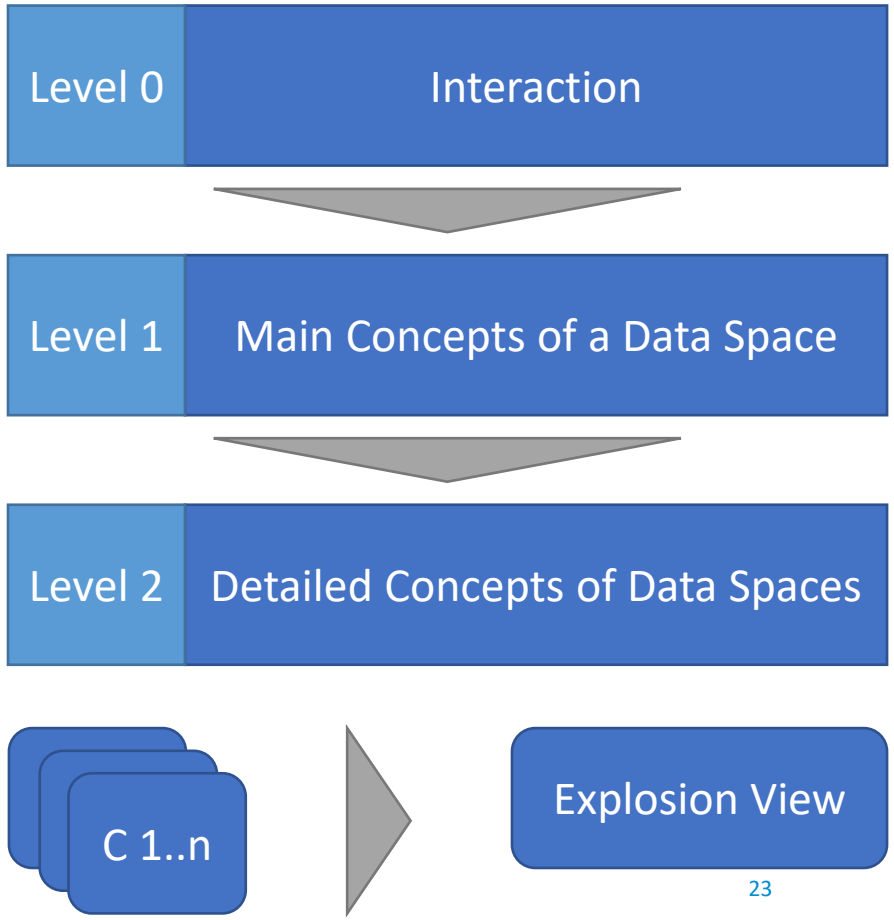
- Level 0
  - Basic interactions of data spaces
  - Ecosystem perspective
  - Federations incorporated
- Level 1
  - Main Concepts of data spaces
  - Products, Transactions, Governance
- Level 2
  - Detailed view on the concepts
  - Data, Policies, Role Model etc.



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How to use the Conceptual Model

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- Ensure that your vocabulary and descriptions are coherent with the propose Conceptual Model by DSSC
- Check if your building blocks are compatible with this model
- Check if your blueprint is consistent across all your BBs according to this model

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How to keep posted

- News and publications at dssc.eu
  - Get support
- Join the Technology Thematic Group
  - Knowledge base and periodic meetings
  - Get involved
- Monthly DSSC Insights Series
  - Next one about the Blueprint on 5th October at 16:00

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Thanks!

contact@dssc.eu

support@dssc.eu