DSSC Insight Series

DATA SPACES SUPPORT CENTRE

Accelerating green transition with data spaces

25 January 2024 | 16:00 to 17:00 CET | online

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

Sebastien Denvil
ECMWF

GREAT

THE GREEN DEAL DATA SPACE – ROADMAP

What are we up to today?

- Give a flavour of what the Green Deal Data Space could be
- Give a flavour of our roadmap principles
- Getting ready to hear your thoughts about it

GREAT | The Green Deal Data Space

- **Duration:** 18 Months
- **Running:** September 2022 –February 2024
- **Consortium**: 11 Partners 3 Associated Partners
- **Funding:** Digital Europe Programme (CSA)

Green Deal Data Space
A federation of data ecosystems enabling policy makers, businesses, researchers and citizens, from Europe and around the world, **to jointly address Green Deal challenges.**

IDC · egi · cesnet · Consiglio Nazionale delle Ricerche · EARSC European Association of Remote Sensing Companies · ECMWF · eodc · SURF · Utrecht University · WAGENINGEN UNIVERSITY & RESEARCH · seascape BELGIUM · EPOS ERIC European Research Infrastructure Consortium · ISTITUTO NAZIONALE DI GEOFISICA E VULCANOLOGIA · Instytut Geofizyki Polskiej Akademii Nauk

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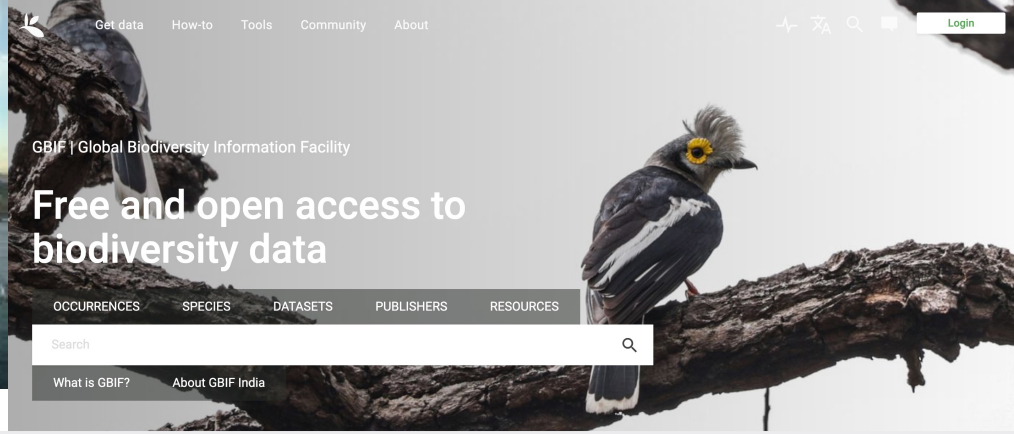
Strategic Green Deal Actions

Green Deal Objectives/Binding Targets

Urban ecosystems – No net loss of green urban space by 2030, and an increase in the total area covered by green urban space by 2040 and 2050.

Green Deal Objectives/Binding Targets

Agricultural ecosystems – Increasing grassland butterflies and farmland birds, the stock of organic carbon in cropland mineral soils, and the share of agricultural land with high-diversity landscape features; restoring drained peatlands under agricultural use.



dopa.jrc.ec.europa.eu/kcbd/dashboard/

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SUMMARY

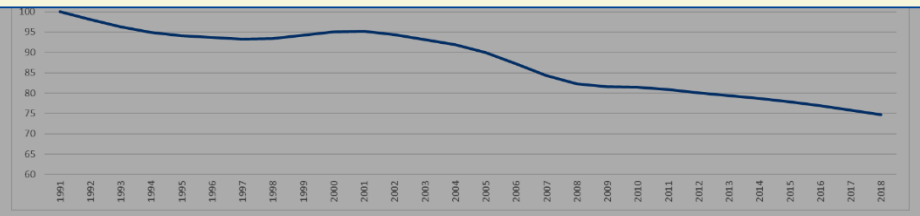
COHERENT NETWORK OF PROTECTED AREAS

EU NATURE RESTORATION PLAN

Indicator: 5.0.1 - Grassland butterfly index

This indicator is an index measuring changes in population abundance at EU level of 17 grassland butterfly species, using 1991 as reference year. Values are calculated every year by the European Butterfly Monitoring Scheme partnership, distributed by the European Environmental Agency, and further provided by Eurostat.

The indicator uses a large number of datasets and they are not tracked by this dashboard.



Target 6 - The risk and use of chemical pesticides is reduced by 50%, and the use of more hazardous pesticides is reduced by 50%.

Indicator under development.

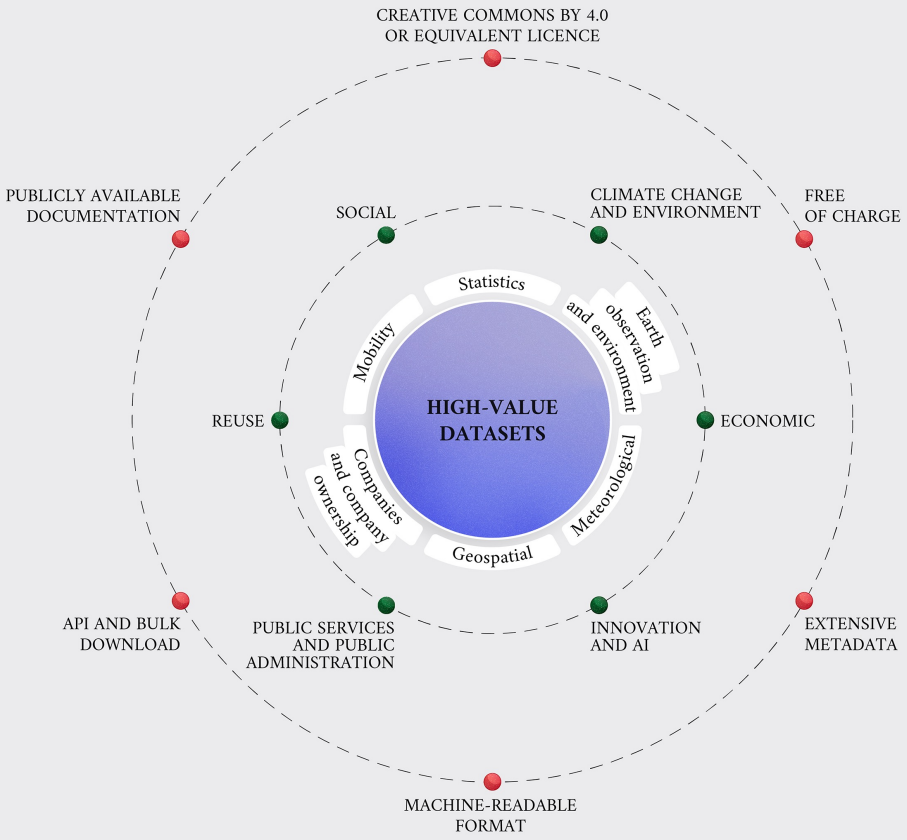
Target 7 - At least 10% of agricultural area is under high-diversity landscape features.

Indicator under development.

Target 8 - At least 25% of agricultural land is under organic farming management, and the uptake of agro-ecological practices is significantly increased.

FEATURES OF HIGH-VALUE DATASETS

● = *Macro characteristics*
● = *Mandatory technical requirements*



Bold claim #1

Creating a Green Deal Data Space entails more than just assembling the necessary resources.

Bold claim #2

The mere construction of a sophisticated and technically impeccable Data Space is insufficient.

Bold claim #3 (aka people-centric)

Consistently aligning the future-state solutions with the perspectives and preferences of the individuals who will interact with it.

Roadmap principles

The term pilot is used and differentiated from the term trial

- In a trial, activities are conducted to verify the functionality of a system or parts of it, e.g., when the correct functionality is still the primary interest.
- A pilot is the execution of a trial including business relationship assumptions, exemplifying a contemplated added value for the end-user of a product or service.

Clusters

To provide structure for developing concrete plans, clusters have been identified. They serve as illustrative examples and provide insights into potential future pilot projects:

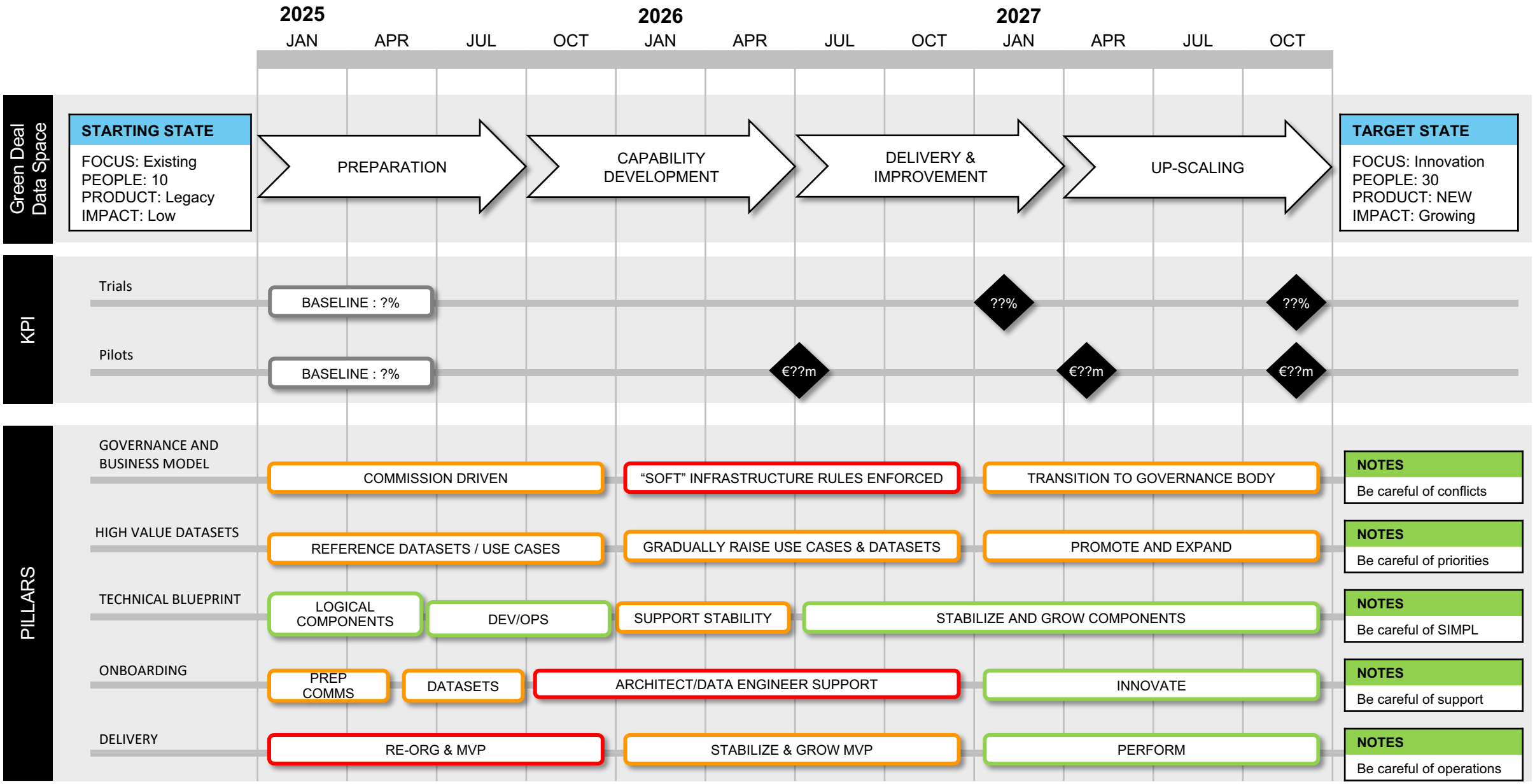
- 1. Biodiversity cluster
- 2. Zero pollution cluster
- 3. Climate change cluster
- 4. Destination Earth ecosystem cluster
- 5. Copernicus Services

GDDS STRATEGIC ROADMAP

VERSION 1

TBC | LOW RISK | MED RISK | HIGH RISK

PHASED IMPLEMENTATION



Green Deal Data Spaces

Policy Alignment:

Ensure that data integration efforts align with national and international policies related to environmental conservation and climate action.

Green Deal Data Spaces

Governance and Sharing Agreements:

Promote governance frameworks that define roles, responsibilities, and data-sharing agreements between different ecosystem stakeholders. Ensure data access and usage are governed by clear policies.

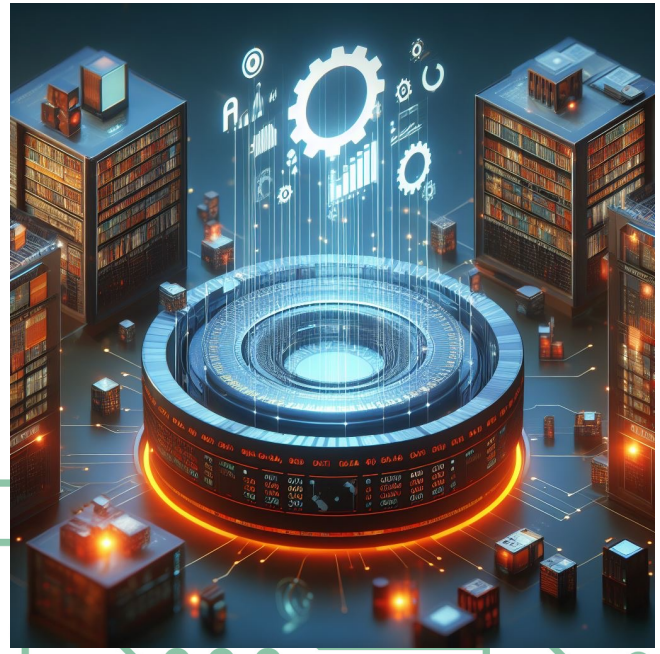
Green Deal Data Spaces

Collaborative Research Projects:

Foster collaborative research projects that bring together experts from different environmental domains. These projects can explore ways to integrate data for comprehensive analyses and solutions

Green Deal Data Spaces

Data Discovery and Catalogues:
Develop centralized data discovery platforms or catalogues that index datasets from both vertical and horizontal ecosystems, making it easier to locate relevant data.



Green Deal Data Spaces

Data Harmonization Tools:
Invest in tools and technologies for data harmonization and transformation. These tools can automatically align data from different ecosystems, making integration more efficient.

Green Deal Data Spaces

Incentives and Recognition:

Recognize and incentivize data providers, data users, and organizations that actively contribute to data integration efforts. Awards, grants, and acknowledgments can encourage participation.

GREAT
Green Deal Data Space

Green Deal Data Space
Final Stakeholder Forum

30 January 2024 14:00-16:30 CET

Scan to register!

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European Data Space for Smart Communities

Elisabeth Beck Knudsen
Deputy Coordinator

25.01.2024

European data space for smart communities

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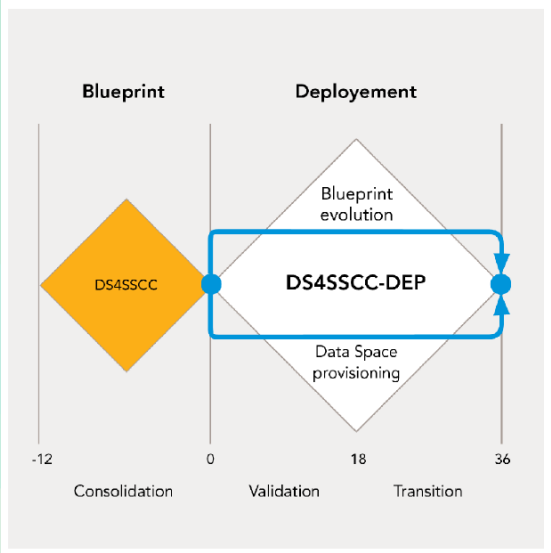
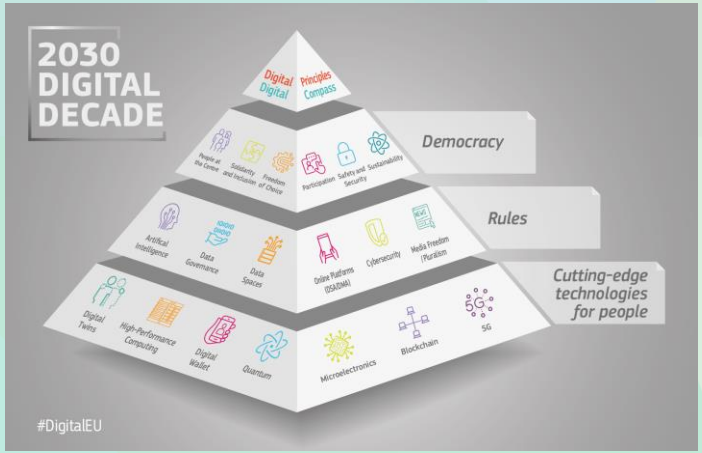
What is the European Data Space for Smart Communities?

- From Preparatory Action towards Deployment
  - Both actions co-funded by the Digital Europe programme
- The overarching aim is:
  - To create a large-scale cross-sectorial data space for smart communities in the EU…
  - … and to advance its implementation to support policy priorities of cities and communities within the EU…
  - … by validating the governance and technical blueprint developed by the preparatory action
  - It is a 3 year action (Oct. 2023-Sep. 2026)



Vision



- Deliver to Europe's Digital Decade
- Pilots will be launched in focus areas relevant to the European Green Deal
- Priority datasets linked to environmental and climate-related challenges
- Pilots are cross-domain, will have to include at least 2 Green Deal Domains
  - Predictive traffic management/sustainable mobility planning
  - Data-services related to weather, climate and extreme weather events to facilitate risk prevention, disaster resilience as well as climate change adaptation
  - Zero pollution actions (e.g., air, water, soil pollution or waste)
- "Bad data kills good services, and bad services may kill people, the planet and the prosperity of communities on all levels"

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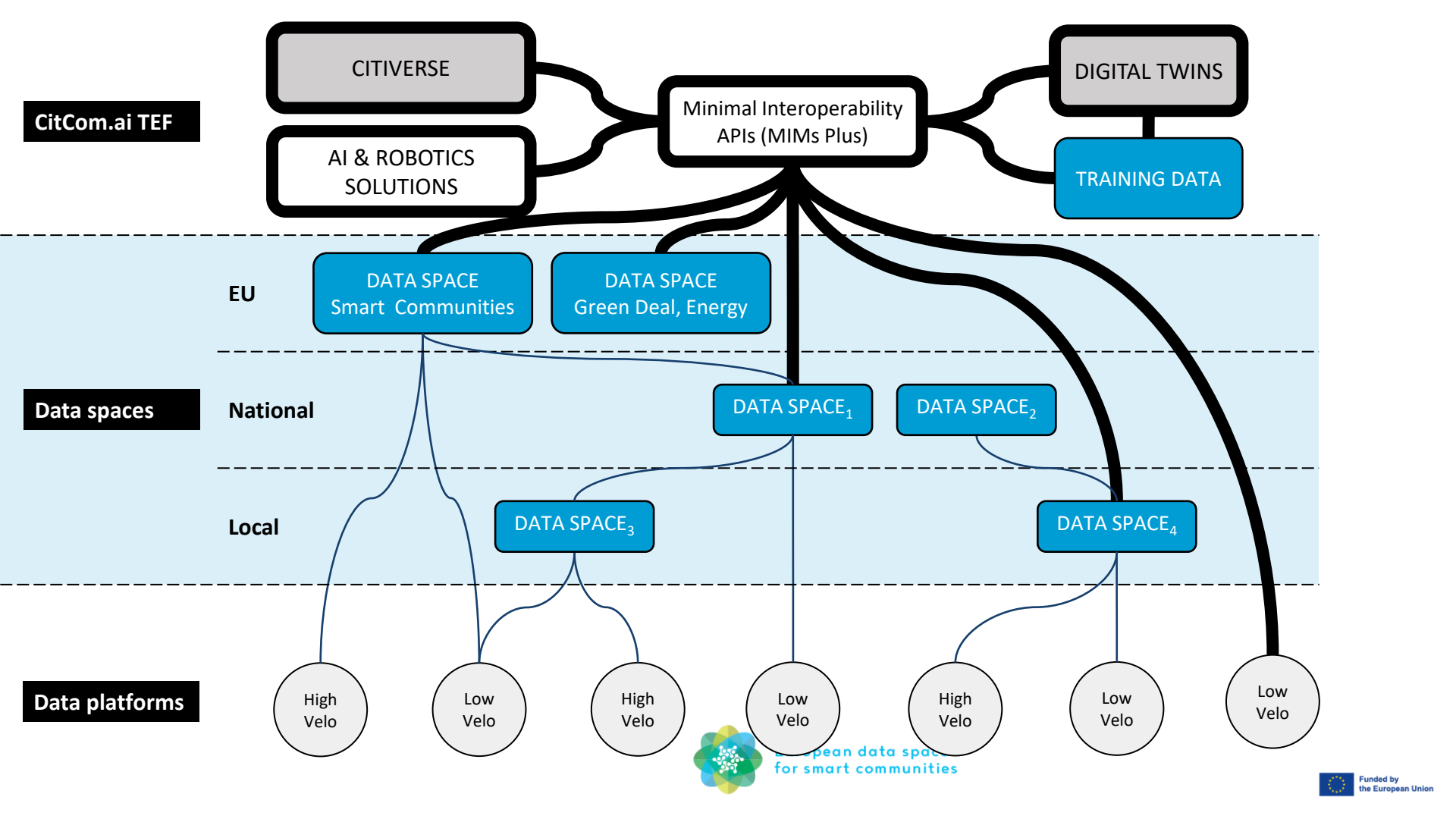
CitCom.ai TEF
CITIVERSE
AI & ROBOTICS SOLUTIONS
Minimal Interoperability APIs (MIMs Plus)
DIGITAL TWINS
TRAINING DATA
Data spaces
EU
DATA SPACE Smart Communities
DATA SPACE Green Deal, Energy
National
DATA SPACE1
DATA SPACE2
Local
DATA SPACE3
DATA SPACE4
Data platforms
High Velo
Low Velo
High Velo
Low Velo
High Velo
Low Velo
Low Velo
for smart communities
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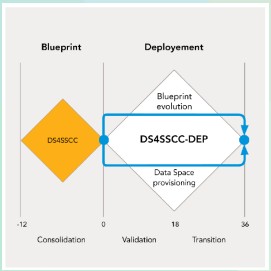
What is the DS4SSCC Preparatory Action?



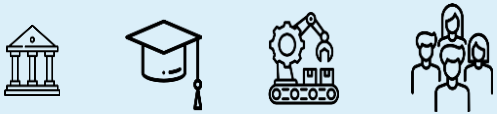
- Name: Data Space for Smart and Sustainable Cities and Communities
- Goal: To create a data space blueprint for smart communities as an enabler of the EU Green Deal goals and Sustainable Development Goals
- 1 year action (Oct. 2022-Sep. 2023)
- Website: www.ds4sscc.eu
- Built around the Stakeholder Forum

Interviews

Surveys

Workshops

The DS4SSCC Stakeholder Forum



Project Updates

Best-practices

Presentations

European data space for smart communities

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Co-Creation

CitCom AI

GREAT Green Deal Data Space

LIVING-IN.EU

DATA SPACES SUPPORT CENTRE

DS4SSCC Stakeholder Forum

Data Space Blueprint (output of DS4SSCC preparatory action)

Updated Data Space Blueprint

MIMs

October, 2022

October, 2023

October, 2026

European data space for smart communities

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The Non-technical

Multi-stakeholder data governance scheme

- Business (to be further developed)
- Legal (see Code of Conduct)
- Organisational (see Code of Conduct)

Developing a multi-stakeholder data cooperation for DS4SSCC

The technical Part

Catalogue of Data Space Building Block Specifications

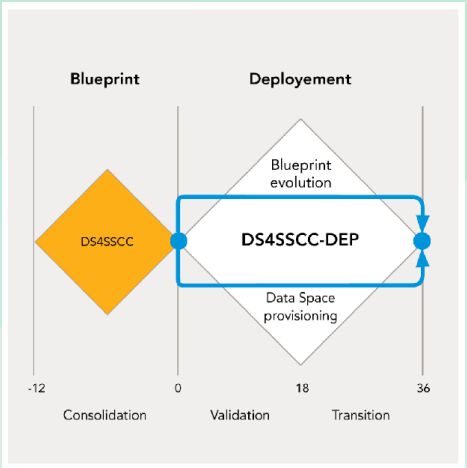
Reference Architecture Model

CookBook

Blueprint Evolution and Data Space Provisioning

- We seek to validate, in practice, an EU-wide cross-sectorial data space

- We are in the search for 10-12 pilots to implement real use cases
- Means of validation:
  - 10-12 real use cases
  - Open call for pilots announcement
  - Cross sectorial pilots from at least 2 member states
  - 3 rounds of calls during 2024
  - Feedback from pilots to validate and develop blueprint



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WHY APPLY

These pilots will implement the governance and technical blueprint established by the cross-sectorial data space preparatory action (DS4SSCC).

Through the piloting, you can expect to:

Be placed in a forefront of innovative smart community development in Europe;

Enter into an expansive network of European communities, experts, and policymakers;

Be recognized as leading examples of sustainable and smart urban development;

Receive support and guidance in aligning with the DS4SSCC blueprint and integrating with broader European data ecosystems;

Directly contribute to the shaping of Europe's green and digital future.

CO-FUNDING MODEL

Total EU contribution

Total 15 million euros

10-12 pilots

1-1.5 million euros per pilot

Requirements for Applicants

Bear at least 50% of the total pilot cost

Estimated total budget per pilot 2-3 million euros

Eligible funding: Co-financing has to be dedicated cost as indicated directly in the budget for the pilot and has to be auditable. This has to be documented following normal accounting practices.

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APPLICATION PROCESS TIMELINE

Three application rounds:

- **1st submission round:**
  11th March–10th May 2024
  (2 months)
- **2nd submission round:**
  mid-June–mid-Sept 2024
  (3 months)
- **3rd submission round:**
  Oct–Nov 2024
  (2 months)

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Support timeline over the pilot execution

Onboarding

Onboarding workshop

Benchmarking

Monitoring plan

Profiling interview

Training sessions

First self-assessment survey

Intermediary check

Mid self-assessment survey

Monitoring check point

Feedback collection

Additional training

Intermediary/final check

Final self-assessment survey for 12-months projects (second one for 16-months projects)

Monitoring check point

Feedback collection

Final check

Final self-assessment survey for 16-months projects

Monitoring check point

Feedback collection

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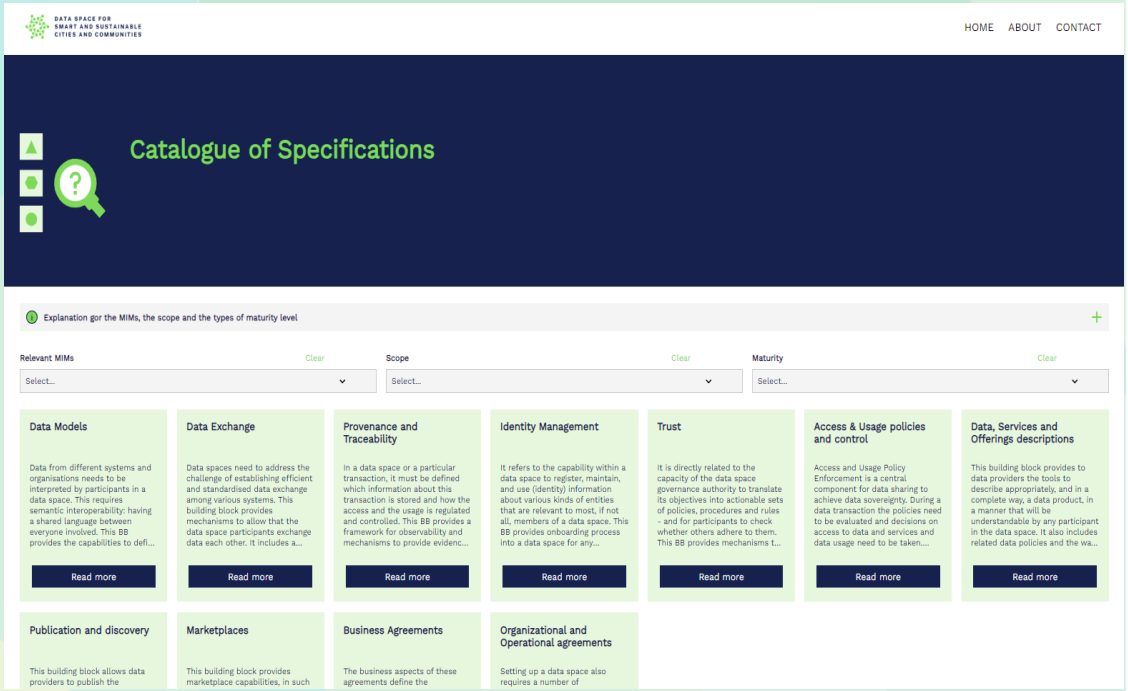
Multi-stakeholder Governance Scheme

Why	What	Who	How
Vision & principles	Types of Data	Stakeholders	Business Models
Scope & Goals	Data Quality Insurance	Roles	Governance Rules
Incentives			Legal Frameworks

Create win-win situations and incentives for stakeholders

Catalogue of Specifications

- Leverage on DSSC Building Blocks taxonomy
- Aligned with Data Spaces Business Alliance (DSBA)
- Mapped to Minimal Interoperable Mechanisms (MIMs)
- Open for contributions, both standards and reference implementations



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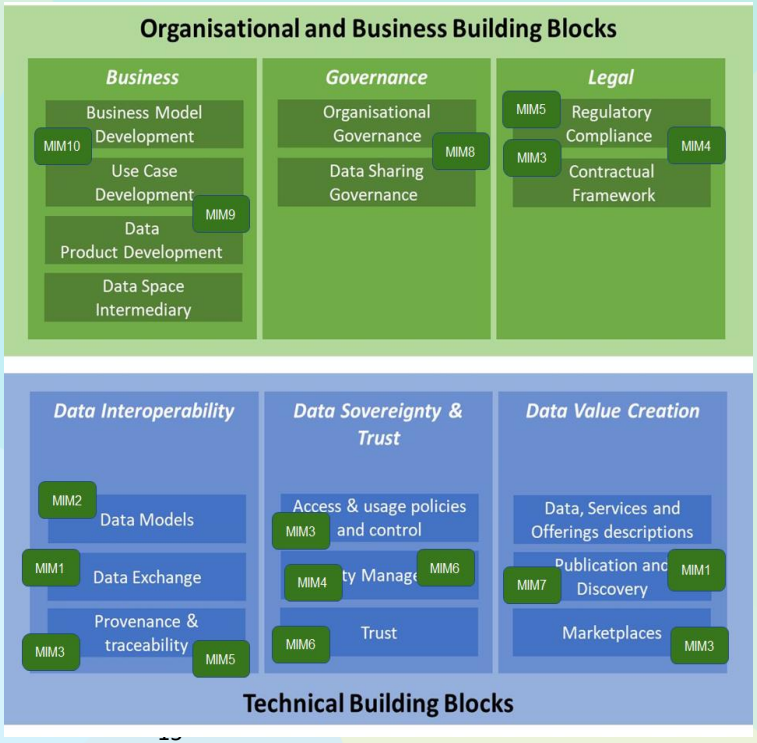
Mapping data spaces building blocks with MIMs

DS4SSCC Building Blocks are the “mechanisms” for implementing the MIMs



MIM	Description
MIM1	Context Information Management
MIM2	Shared Data Models
MIM3	Ecosystem Transactions Management
MIM4	Personal Data Management
MIM5	Fair Artificial Intelligence
MIM6	Security management
MIM7	Geospatial information management
MIM8	Ecosystem indicator management
MIM9	Data Analytics Management
MIM10	Resource Impact Assessment

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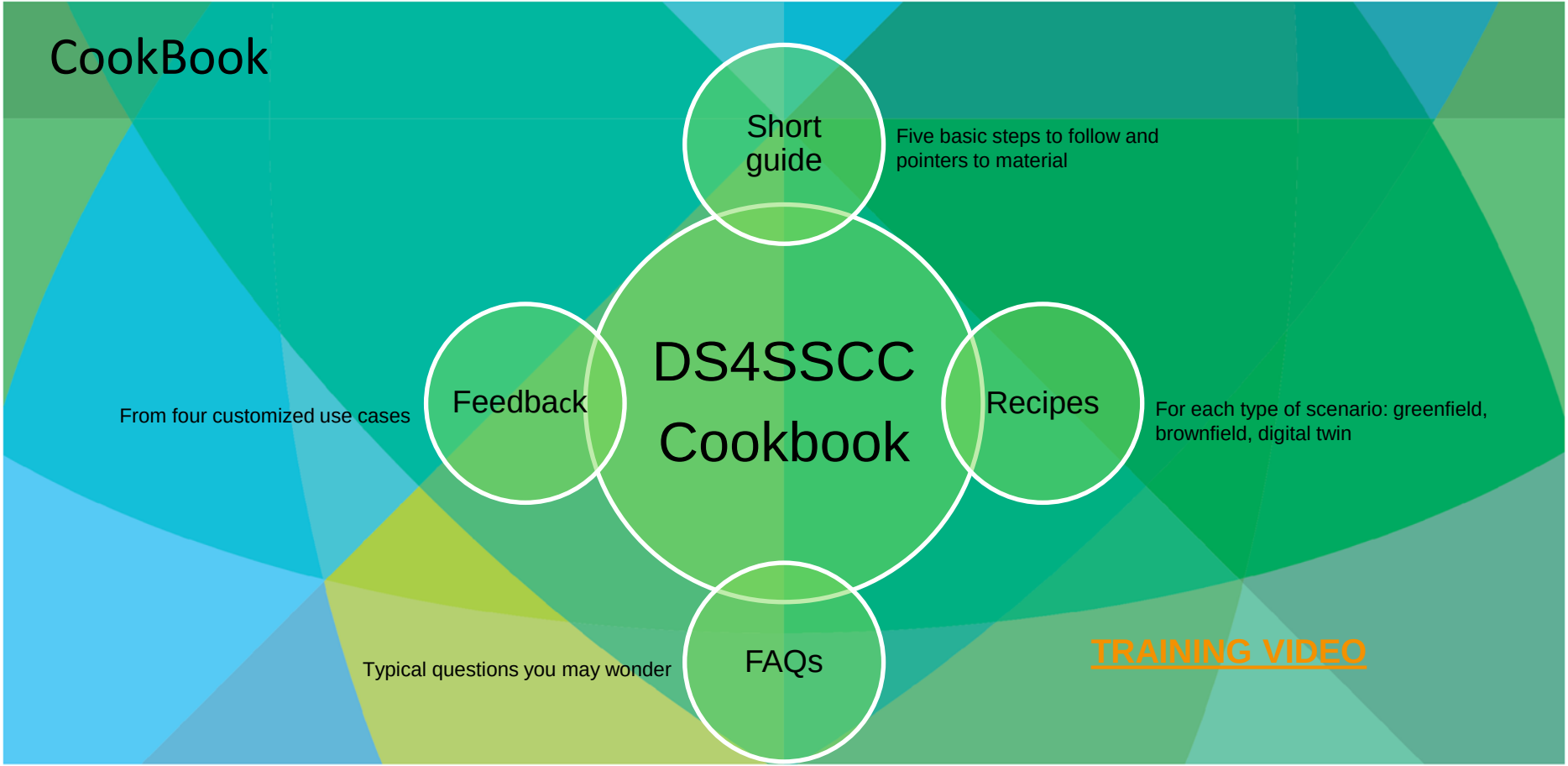
CookBook



European data space for smart communities

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The Tools Available

Data Cooperation Canvas

- At a glance overview
- Developed together with the city of Amsterdam
- Available @ www.ds4sscc.eu & www.datacooperationcanvas.eu

Online Navigable Tool

- No need to read lengthy documents; navigate through the content
- Available on the website

Cheat Sheet

- A checklist for data space deployment
- Covers the governance, data value and technical infrastructure milestones

The Data Cooperation Canvas

Organizational

Key partners
Who are the partners involved in the data exchange? What are their roles?

Resources
What organizational resources are required for this data cooperation? What resources are available already? What needs to be done to get all required resources?

Business case
What are the costs of the data exchange? Who is paying? What are the revenues? Who is profiting? What compensation, fees or other financials are needed?

Shared processes
What steps are performed as a shared process in the data exchange? What steps are done individually?

	Individual	shared
Use	☐	☐
Visualise	☐	☐
Interpret	☐	☐
Combine	☐	☐
Transform	☐	☐
Store	☐	☐
Create	☐	☐

Why?

Context
What is the business context that creates the opportunity/necessity for data exchange?

Added value
Why will this data cooperation succeed? What is the added value for participants?

Motivation & objectives
What is the motivation for the key partners to join the data exchange? What are their main objectives of participating?

Technical

Data & data source
What data is exchanged? What are the data sources used?

Interoperability
How can the data be uniformed/standardized/combined? What shared concepts, languages, formats, or methods can be used? Is it hard to combine all the data? Or are standard definitions available? What data standards & formats are used or need to be used?

Governance model
How are rules, norms and actions structured/sustained/regulated to control the data exchange?

Implementation model
What approach will be used for realizing and implementing the data exchange.

Technical concepts/models
What technical concepts or models need to be in place for the data exchange. What MIMs are implemented and how are they implemented?

Technical infrastructure characteristics
What technical infrastructure is needed for the data exchange?

- What cloud/server infrastructure is used
- What technology stack is used
- What standard software is used?
- In-house development or external parties?
- Central/decentral/distributed model
- How can be connected (API, feeds, downloads, etc.)

Current status
What is the current status of the cooperation

Exploratory stage | Preparatory stage | Implementation stage | Operational stage | Scaling stage

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Individual / shared

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- Store
- Create

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ORGANIZATIONAL

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What approach will be used for realizing and implementing the data exchange?

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Exploratory stage

CURRENT STATUS

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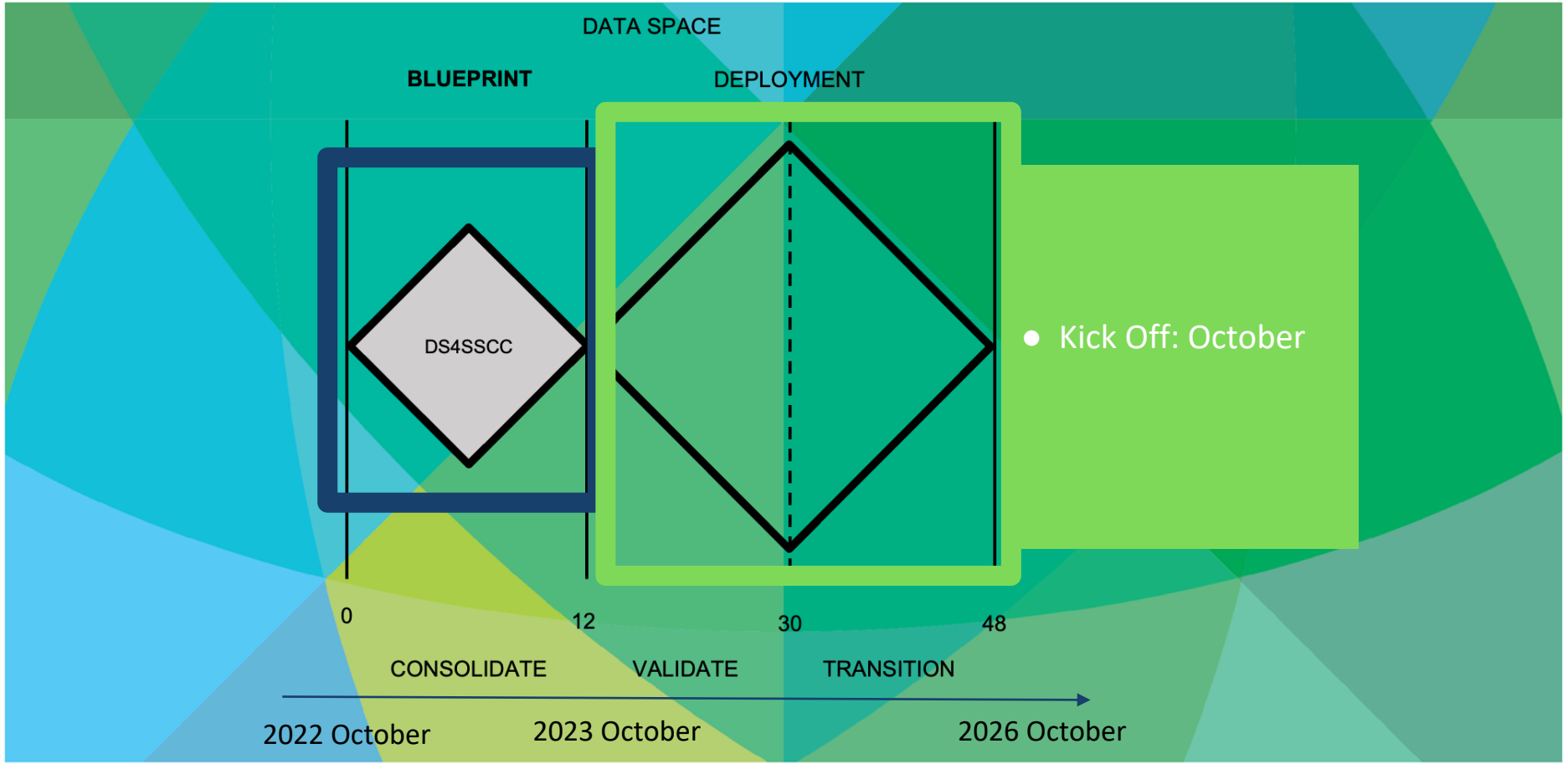

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