



DATA SPACES
SUPPORT CENTRE

DSSC Insight Series

Generative AI and data spaces

28 November 2024 | 16:00 CET | online



Gianfranco Cecconi
DSSC



Ana Garcia Robles
BDVA



Savvas Rogotis
BDVA



Eimear Farrell
European Commission



Tobias Guggenberger
Fraunhofer ISST



Funded by
the European Union

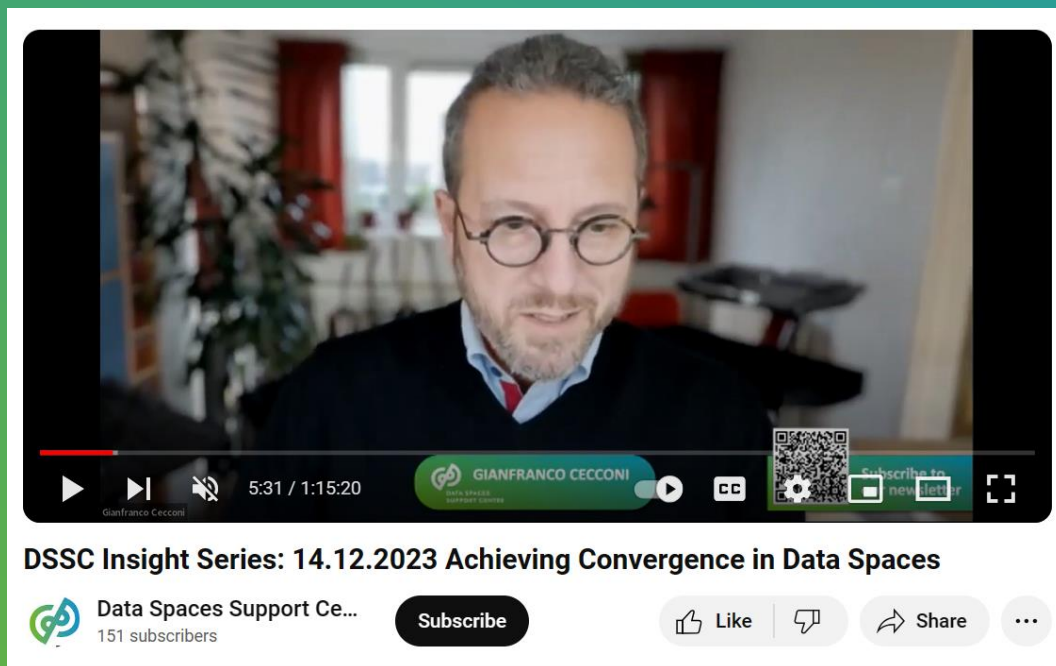
The Data Spaces Support Centre receives funding from the European Union Digital Europe Programme under grant agreement n° 101083412.

Intro:

- Gianfranco Cecconi, Executive Director, Data Spaces Support Centre

Generative AI and Data Spaces white paper presentation:

- Ana Garcia Robles, Secretary General, Big Data Value Association
 - Savvas Rogotis, Senior Project Manager, Big Data Value Association
 - Tobias Guggenberger, Group Lead, Fraunhofer ISST
-
- **Q&A (You can also ask questions in the chat!)**



This webinar is recorded. Did you know? Previous DSSC insight series recordings are available on our Youtube channel. Videos from our annual event are also available!

Check out our YouTube channel here



**Stay up to date with Data Spaces Support
Centre and the European Union's programme
for common European data spaces.**

Subscribe to the DSSC Newsletter!

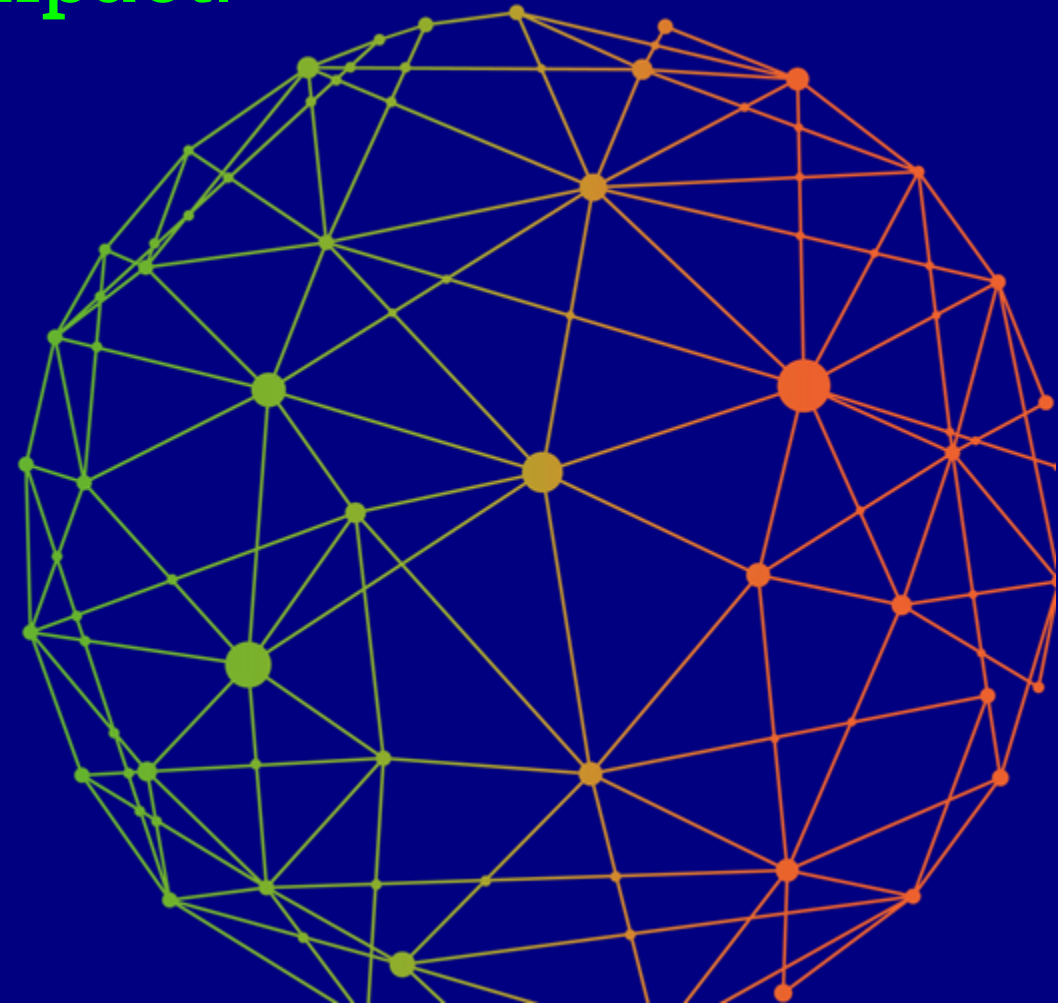
tinyurl.com/dssc-newsletter



Data Spaces Symposium

Share data. Unlock value. Boost impact.

Hilton Hotel, Warsaw | 11 & 12 March 2025



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

Data Spaces Symposium

Join us in Warsaw!

You can have a key role and gain great exposure in the world's leading event on data spaces !

Are you a company/project/initiative and you would like to..

- Sponsor the event and gain more exposure?
- Being up to date with the program and developments?
- Do you have questions on ticketing, and anything related to the event?

Visit our website here or write us at events@dssc.eu!





DATA SPACES
SUPPORT CENTRE

DSSC Insight Series

Generative AI and data spaces

28 November 2024 | 16:00 CET | online



Gianfranco Cecconi
DSSC



Ana Garcia Robles
BDVA



Savvas Rogotis
BDVA



Eimear Farrell
European Commission



Tobias Guggenberger
Fraunhofer ISST



Funded by
the European Union

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

Generative AI and Data Spaces

Ana García Robles – Secretary General (BDVA)

Savvas Rogotis – Senior Data Ecosystem Project Manager (BDVA)

Tobias Guggenberger – Group Lead (Fraunhofer ISST)



Generative AI and Data Spaces

An interplay that fosters opportunities

- The **rise of Generative AI**, underpinned by new foundation models, offers numerous opportunities for businesses and society in Europe
- Synergies between Generative AI and Data Spaces hold **significant transformative potential**
- Exploring this interplay can be a **key for unlocking the value** of **industrial, commercial** and **personal** data
- Enabling their use for ethical and trustworthy AI - fostering **innovation, collaboration, and new business opportunities**

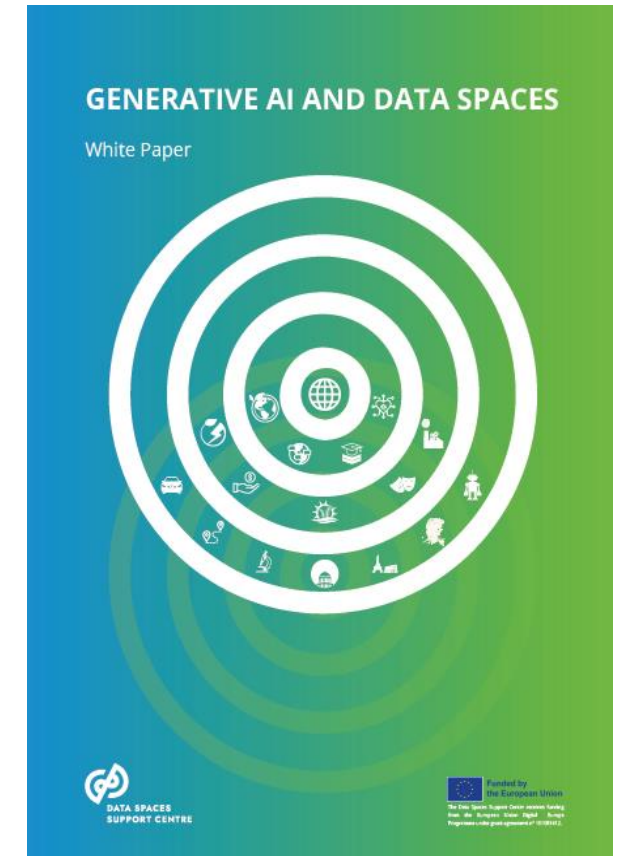
Rationale for building this whitepaper

Purpose:

- **inform** and enable various stakeholders **seize the opportunities** presented by common European **data spaces** for supporting and accelerating the **growth of trustworthy Generative AI**
- to **foster a common understanding** of this topic among various stakeholders and initiatives in Europe – a goal achieved during the production of the paper

A whitepaper produced in the context of the **DSSC and its Network of Stakeholders (NoS)**:

- in particular in collaboration with the **Strategic Stakeholder Forum (SSF)**
- And with several **Data Spaces initiatives** that are part of the **Community of Practice (CoP)** and several AI initiatives that are developing key infrastructures for Europe



The DSSC Strategic Stakeholder Forum

- Multi stakeholder group of **key organisations** very active and with expertise in the **Data Space landscape** (sectoral and cross-sectoral).
- Active **advisory and strategic role** for the DSSC
- It includes **32 members from 12 EU countries** (but also members with European & international focus)
- It is open for new organisations to join.



The Generative AI and Data Spaces whitepaper: A real collective effort

- **DSSC consortium partners**
BDVA, KUL, Fraunhofer ISST, VTT, Insight, SITRA, FIWARE
- **DSSC Strategic Stakeholder Forum Members**
Ministry of Economic Affairs and Communications of Estonia, EC JRC, CSC, iShare, ILVO, 1001 Lakes, Dynamo
- **Data Space initiatives (TEMS, LDS, GREAT)**
CMCC, EGI, CNR, ELDA, ARC, DFKI, TILDE
- **other relevant stakeholders (e.g. AI TEFs, DeployAI, OpenGPT-X)**
FBK, CEA, BIH-Charite, Demokritos, Fraunhofer IAIS
- **45 experts - 26 organisations - 11 initiatives all bringing different roles and contributions**

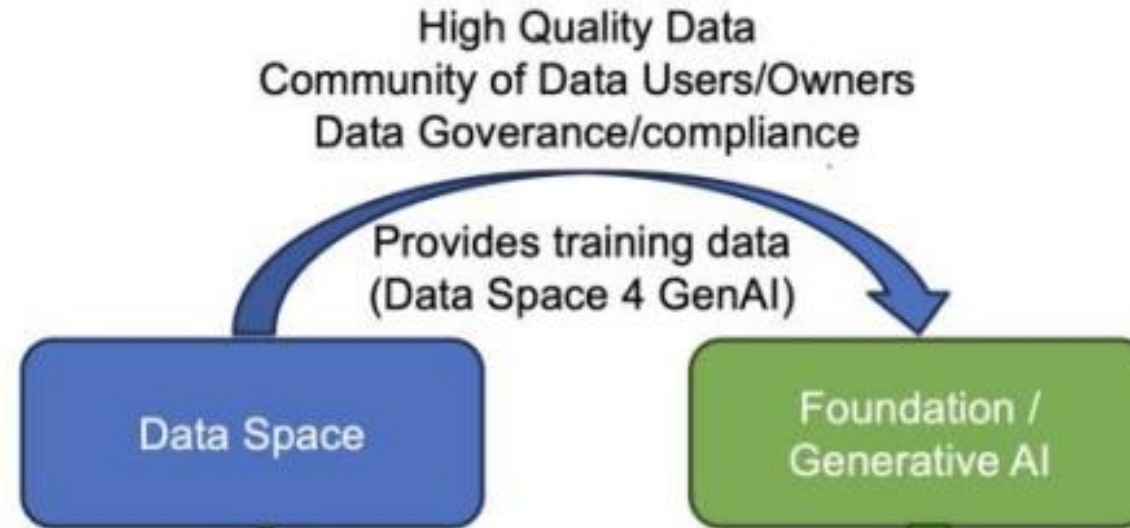
Value not only in the outcome but also in the co-creation and co-learning process during the production of the paper

This paper **will evolve** as we are already receiving comments, and strong interest for further participation

The paper is
openly available
through dssc.eu

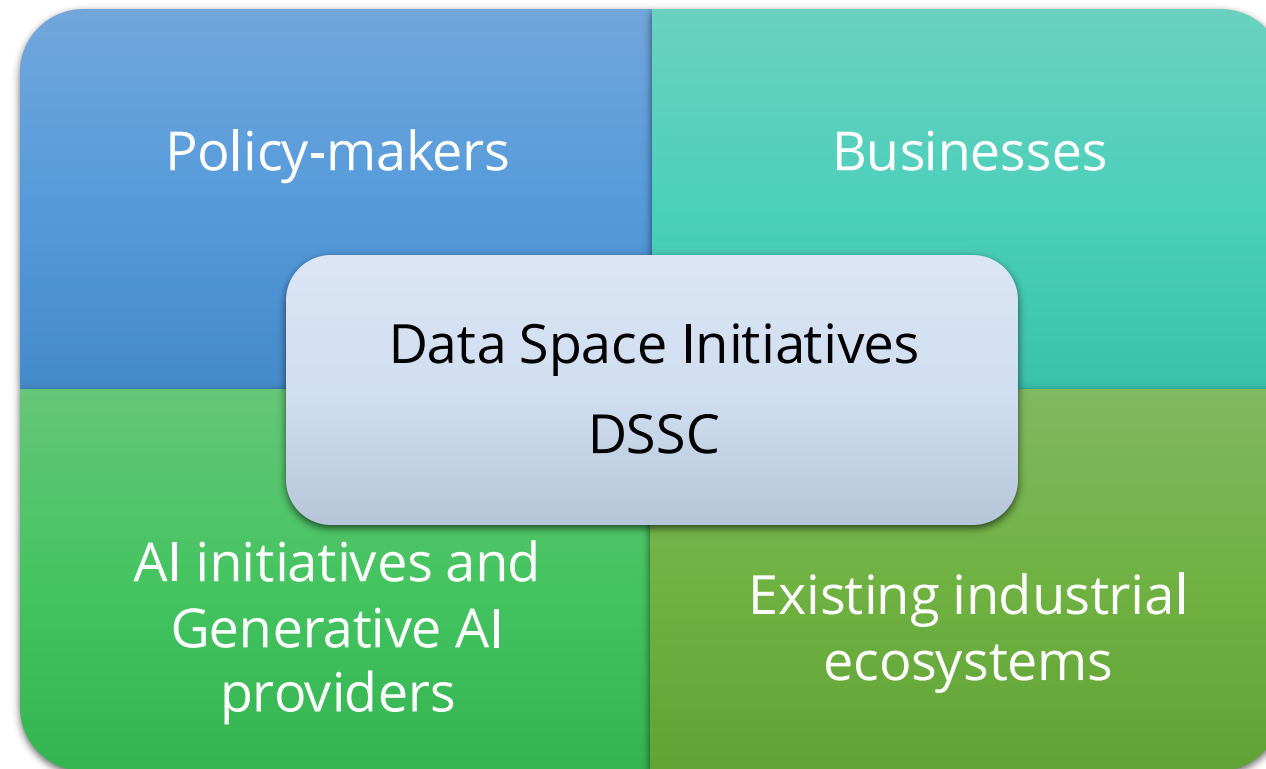


Synergies between Data Spaces and Generative AI



- While acknowledging **symbiotic collaboration**, focus is primarily on the **potential of data spaces for Generative AI**

Whitepaper that aims to be useful for many different audiences



Generative AI and Data Spaces

White paper structure

Part 1: Whitepaper

1. Introduction
2. A multidimensional perspective of the challenges of Generative AI
3. The transformative potential of data spaces for Generative AI
4. Challenges to unlock the full potential of data spaces for Generative AI
5. The specific case study of AI Factories
6. Recommendations
7. Conclusions

Part 2: Learnings from several initiatives

1. Learnings from some common European data space initiatives
2. Learnings from some Generative AI projects
3. Learnings from several sectors based on research activities and projects

Annexes

Annex A - EU policy framework and relevant initiatives

Annex B Technological and Industrial trends



Learnings from several initiatives (1)

Common European Data Spaces



Generative AI projects



Learnings from several initiatives (2)

Generative AI projects

 **Ted**·tenders electronic daily

Several sectors based on research activities and projects



Healthcare
domain

CLARIFY



Cybersecurity
domain



Agriculture
domain

SoilWise
KNOWLEDGE & DATA FLOWS

The specific case study of AI Factories

- **AI Factories** as an illustrative scenario, cross-cutting between data-computing-GenAI, where aspects and learnings from this Whitepaper can be applied

<https://digital-strategy.ec.europa.eu/en/policies/ai-factories>

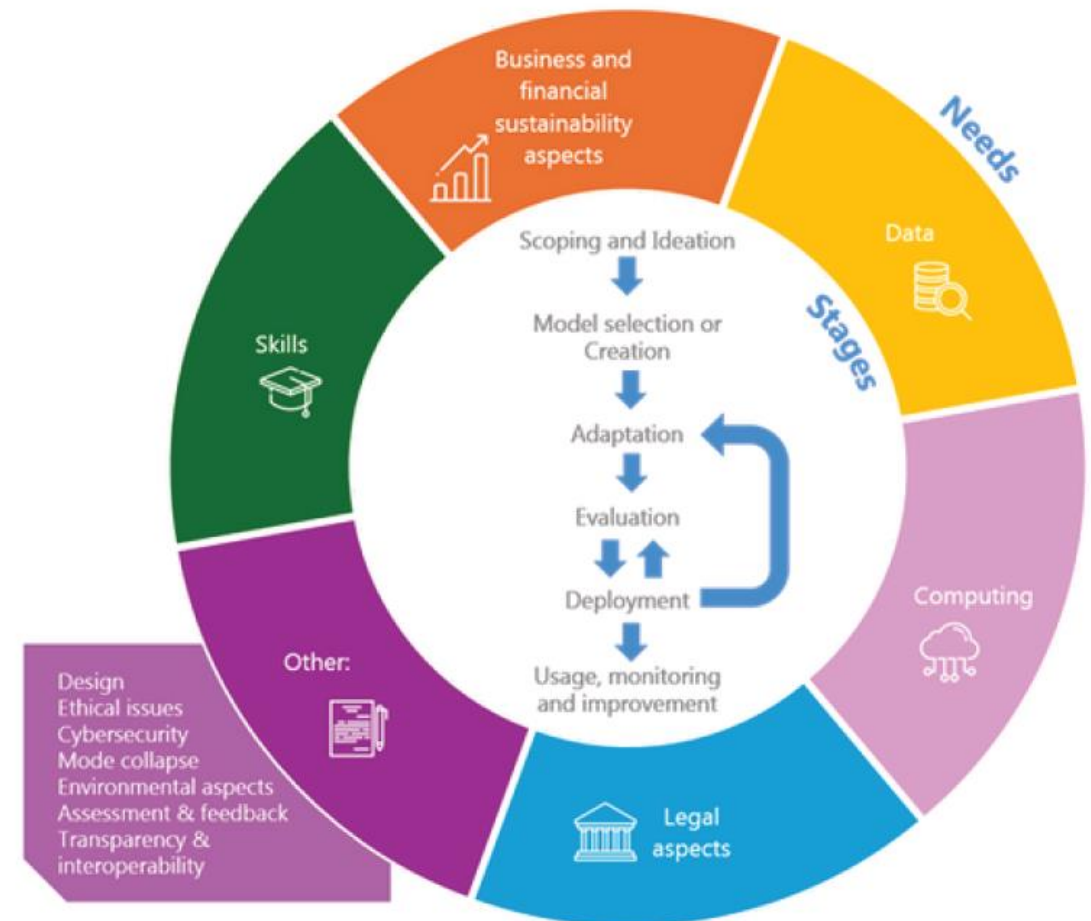
- *“AI Factories are dynamic ecosystems that foster innovation, collaboration, and development in the field of AI. They bring together the necessary ingredients – computer power, data, and talent– to create cutting-edge generative AI models. They serve as hubs driving advancements in AI applications across various key domains, from health to energy, and from manufacturing to meteorology”*
- Integration of AI Factories and data spaces poses many opportunities & some challenges
- Content based on collaborative effort and extended in a **discussion paper BDVA** is elaborating with many different stakeholders.

Generative AI multidimensional challenges & needs

- **What are the main challenges + needs for Generative AI in the EU?**
- Data, computing, skills, legal requirements, business & financial sustainability
- Other challenges linked to AI: design, ethical issues, mode collapse, content pollution & quality, transparency & interpretability, assessment & feedback, cybersecurity, environmental aspects, ...
- Distinct needs + challenges at each stage (evolving)

- Data Spaces can naturally support in data needs but this is not the whole story
- Data Spaces could also help overcoming other needs/challenges

Stages of GenAI and horizontal aspects



Data spaces' transformative potential for Generative AI

- Entry point to **Domain specific (including industrial) data needs**
- Providing strong foundations for **High Quality Data** for Generative AI models and applications
- Contributing to **Privacy-Preserving Generative AI** through distributed approaches

A data-sharing infrastructure addressing data needs

Bringing in the digital & business ecosystem perspective

- Developing a **community of stakeholders**
- **Distributed value chains** and **business** and **monetisation** opportunities

- Promoting **transparency** and **traceability**
- Facilitating adherence to **standards**
- Facilitating **data governance**
- Promoting protection of **IPRs**
- Supporting compliance with **privacy** and **data protection law**
- Addressing **cybersecurity** needs

Supporting regulatory compliance

Investments and key accomplishments of Data Spaces in EU as an enabler for Generative AI

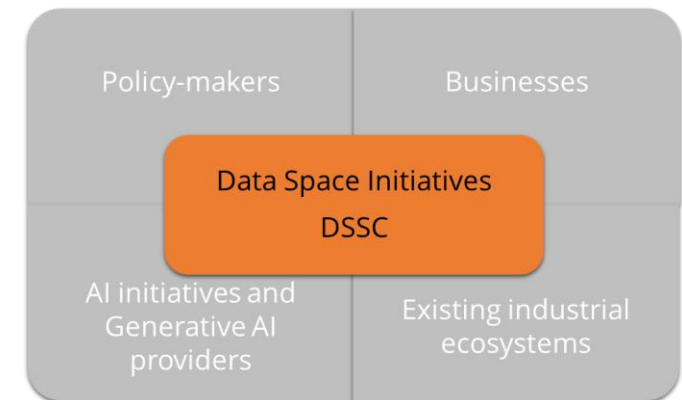
- **EU Investments** in Data Spaces
- Relevant **legislative** instruments

Challenges to unlock full potential of data spaces for Generative AI

- Maturity of data spaces v. growing demands of Generative AI
- Lack of holistic framework and integrated digital infrastructure to address diverse needs & challenges of Generative AI at scale
- Interoperability & simplicity
- Data representation, diversity & quality
- Insufficient evidence/examples of how successful Generative AI applications have been built based on data spaces/sharing paradigms
- Lack of incentives to leverage Industrial data for Generative AI in data spaces
- Adaptation to new data trends

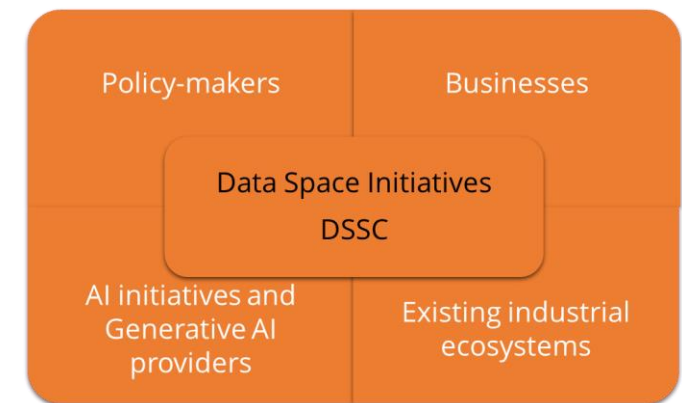
Recommendations for different audiences

1. Define and deploy means of **simplified, harmonised access** to cross-sectoral and federated **data spaces** serving data accessibility for Generative AI needs
2. **Foster innovation** in data ecosystems with Generative AI
 - Providing **Generative AI sandboxes** and **experimentation environments** within European data spaces, allowing stakeholders to experiment and unlock the potential in the Generative AI value chain
3. **Identification of use cases** and creation of a **catalogue of learnings** from Generative AI applications built on top of data sharing – using it as an instrument to further promote data sharing
 - Creating a catalogue of use cases and learnings across different sectors would serve as a valuable resource for newcomers and organisations eager to support developments offering concrete incentives
4. Advance **in integrating Generative AI requirements** in data space assets, frameworks, technologies and participants

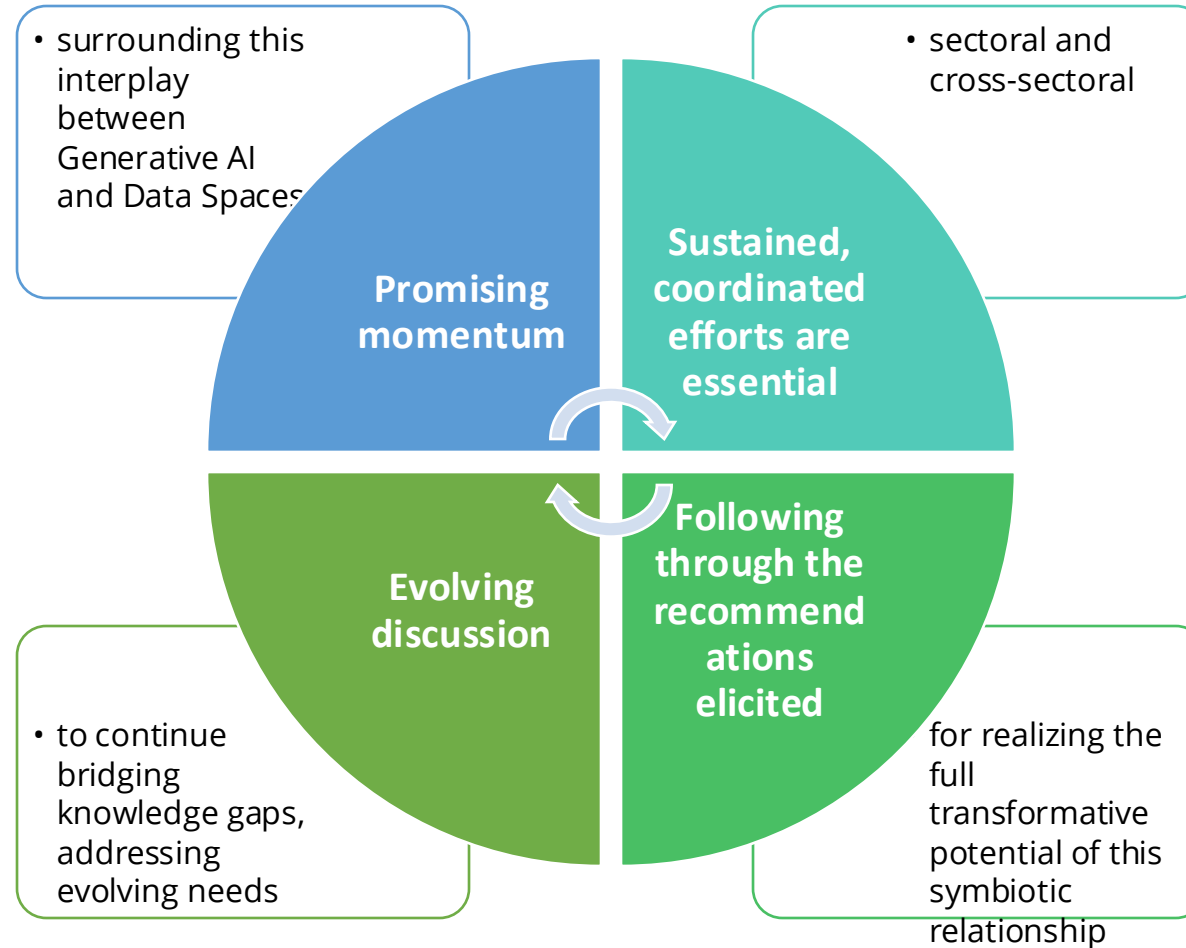


Recommendations for different audiences

1. Coordinate efforts for creating **domain-specific Generative AI models** across all industrial sectors by building on common EU data spaces
2. Continue **balanced and coordinated efforts** in data spaces, Generative AI, and Computing infrastructures
3. Shape an **integrated & comprehensive** framework to address the diverse needs of Generative AI in a **holistic** and **timely** manner
 - Considering key areas like regulatory compliance but also addressing Generative AI needs relating to data, computing, infrastructure, innovative business models and skills, not in isolation but rather combined.
4. Accelerate **training** and **upskilling**
 - New skills and competences are needed to deal with evolving requirements in data spaces, computing and Generative AI intersections



Conclusions

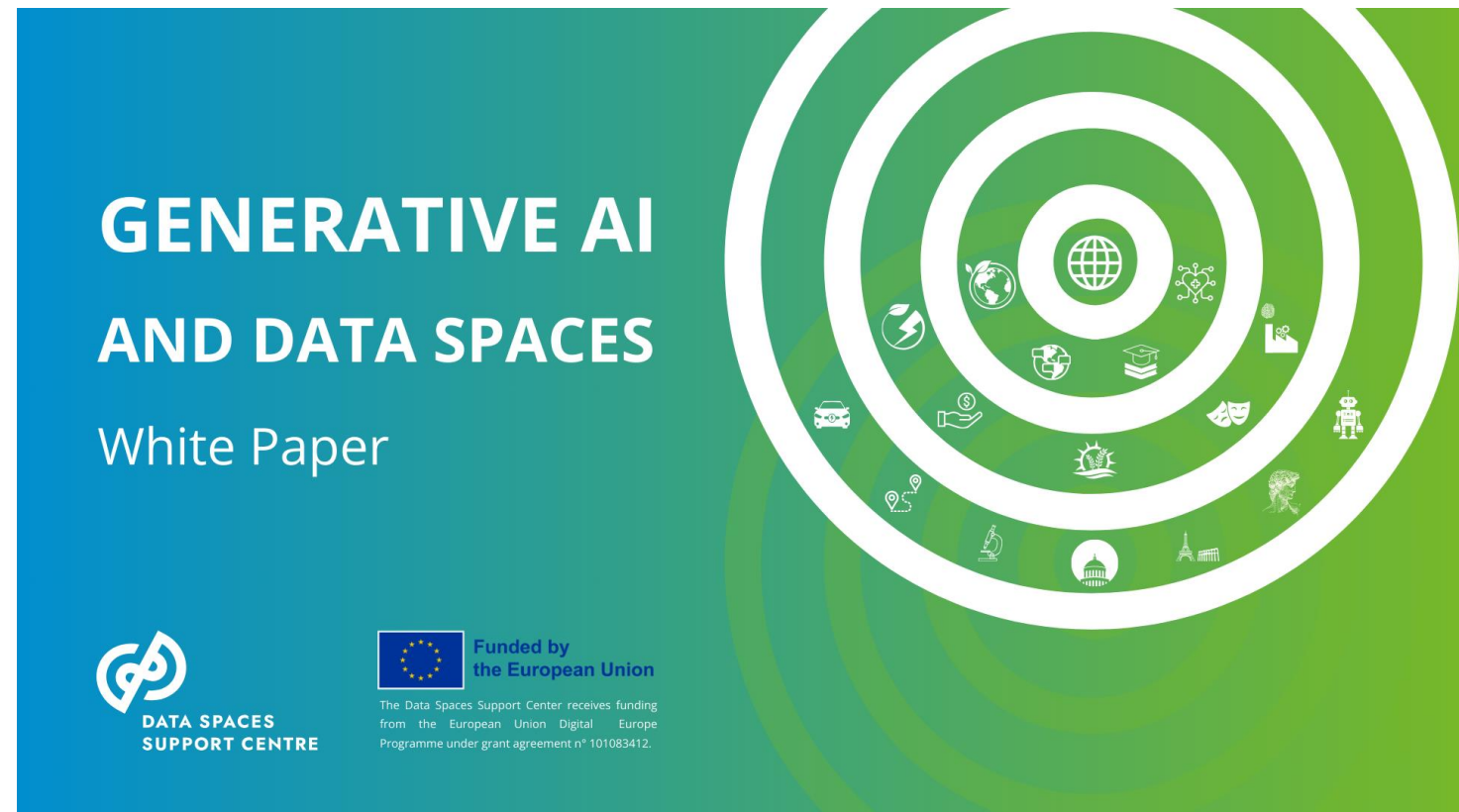


The whitepaper is available

The paper is available
through dssc.eu
(you may find it in a
relevant blog post)

<https://dssc.eu/space/News/blog/380600324/The+new+%E2%80%9CGenerative+AI+and+Data+Spaces%22+white+paper+of+the+Strategic+Stakeholder+Forum+is+now+available>

But you could also scan and
download it



Thank you!

Q&A

Subscribe to the DSSC Newsletter!

