



Funded by the
European Union



Building a European framework for the secure and trusted data space for agriculture

CAPIGI 2023 | Bots, Boots & Business



agridataspace-csa.eu



- Ambassador for Precision farming and Digital AgriFood
- Digital Farming is part of the solution towards sustainable food production
- Support our ecosystem to bring valuable products for the end-users

- Ag. Engineer fascinated by all farm machinery and equipment
- Director of the Agrifood Technology department at ILVO
- (Technical) expert in precision and digital agrifood with interest in the business aspect





Flanders Research Institute for agriculture, fisheries and food

- Public/private Research Institute
- Created 85 years ago
- 700 employees



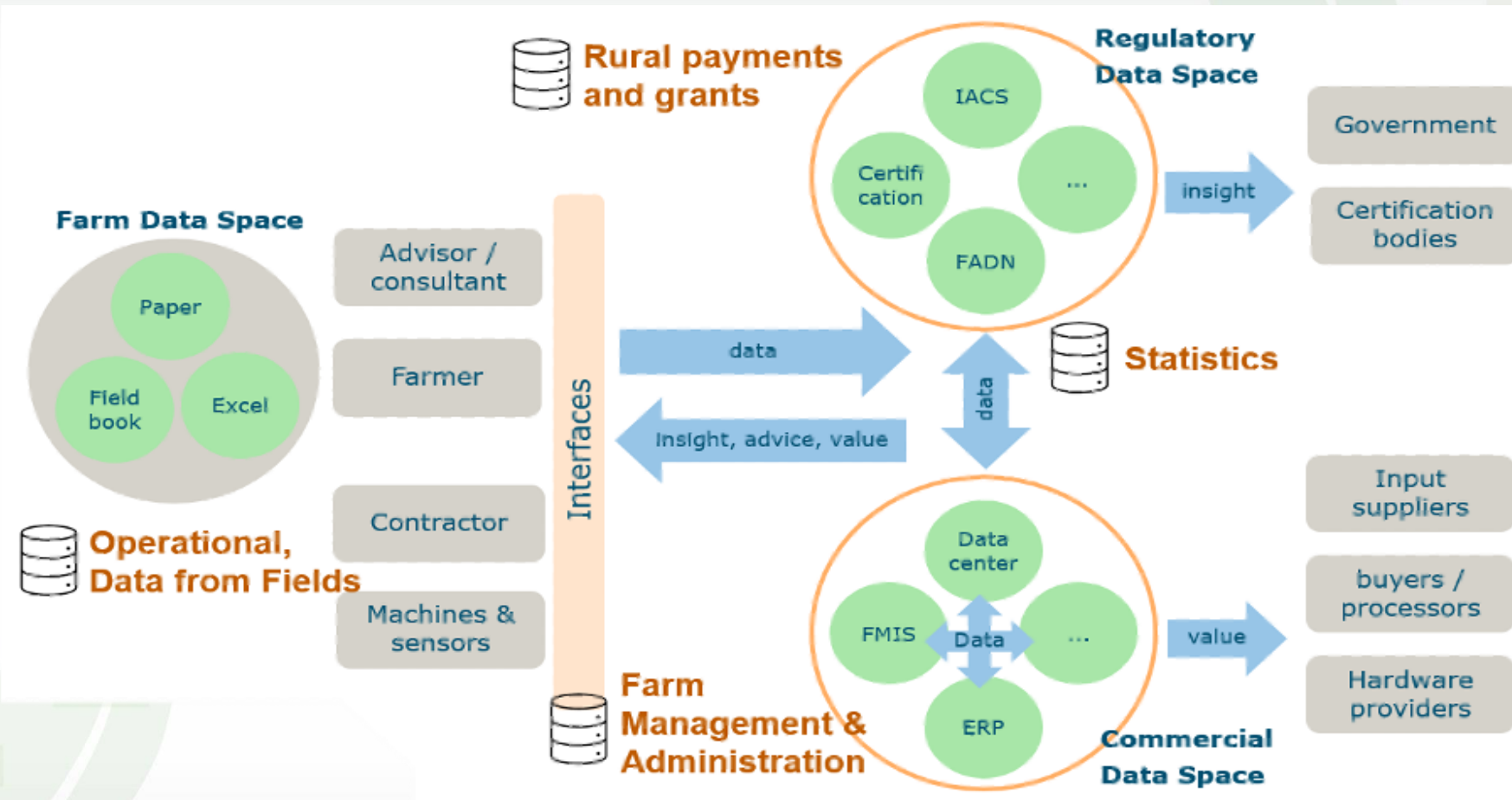
Plant Sciences

Social
Sciences

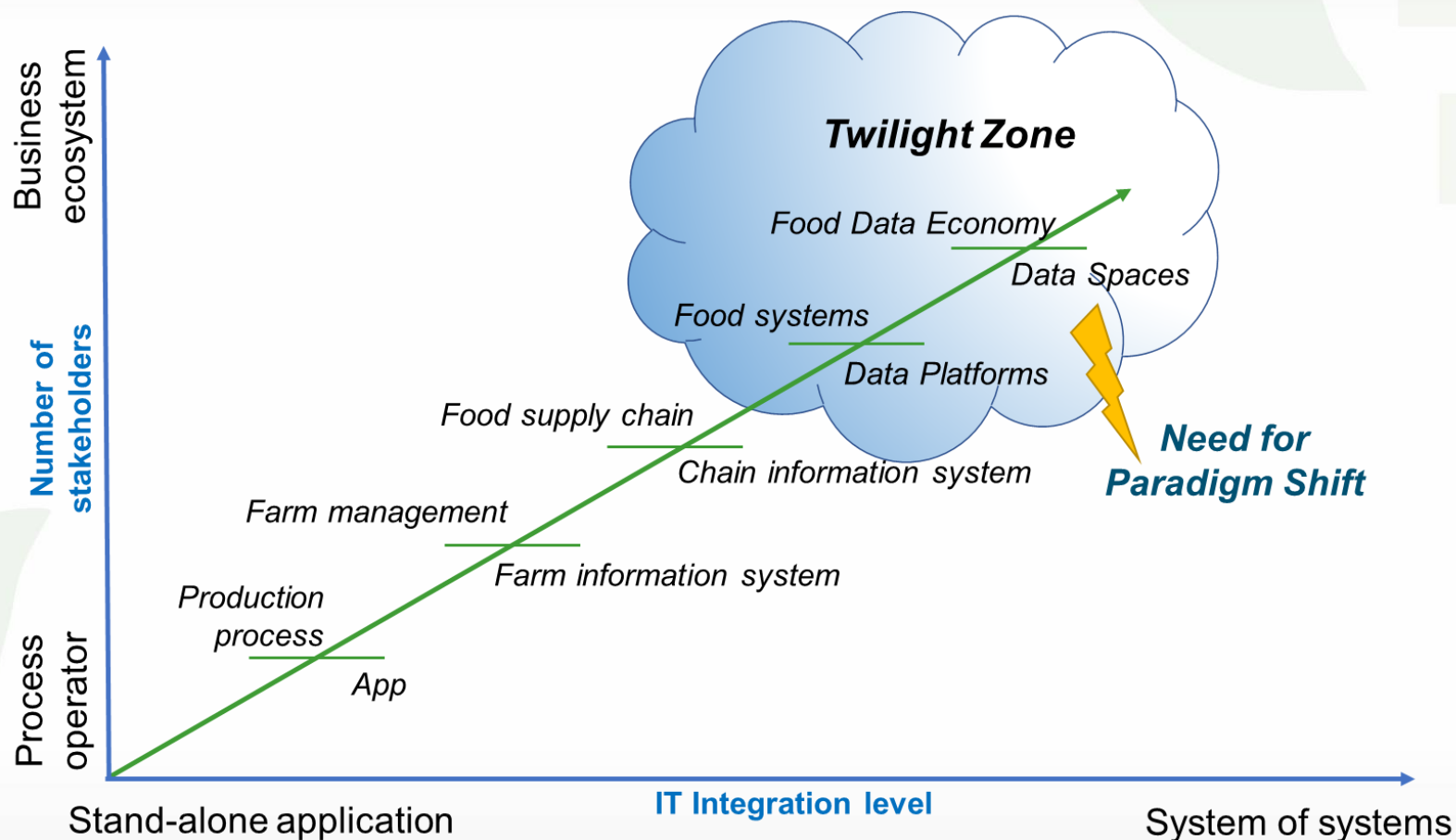
Animal
Sciences

Technology
and Food
Science





Background: evolution of IT in agri-food



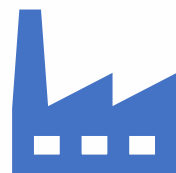
Wolfert et al., 2021. Navigating the Twilight Zone - pathways towards digital transformation of food systems, Mansholt Lectures. Wageningen University & Research, <https://doi.org/10.18174/552346>

Data challenges in the EU?



Availability of data

Reuse = Value



Imbalances in market power

Access to data – data silos

SME as engine of innovations and new ideas but ...



Data interoperability and quality

Standardisation?

European Strategy for Data

A common European data space, a single market for data



What is a Data Space?



A data ecosystem, defined by a sector or application,



whereby decentralised infrastructure enables trustworthy data sharing

What is a Data Space?

Design Principles for Data Spaces

- 1** Data sovereignty
- 2** Data level playing field
- 3** Decentralised soft infrastructure
- 4** Public-private governance

Common European data spaces

Rich pool of data
(varying degree of
accessibility)

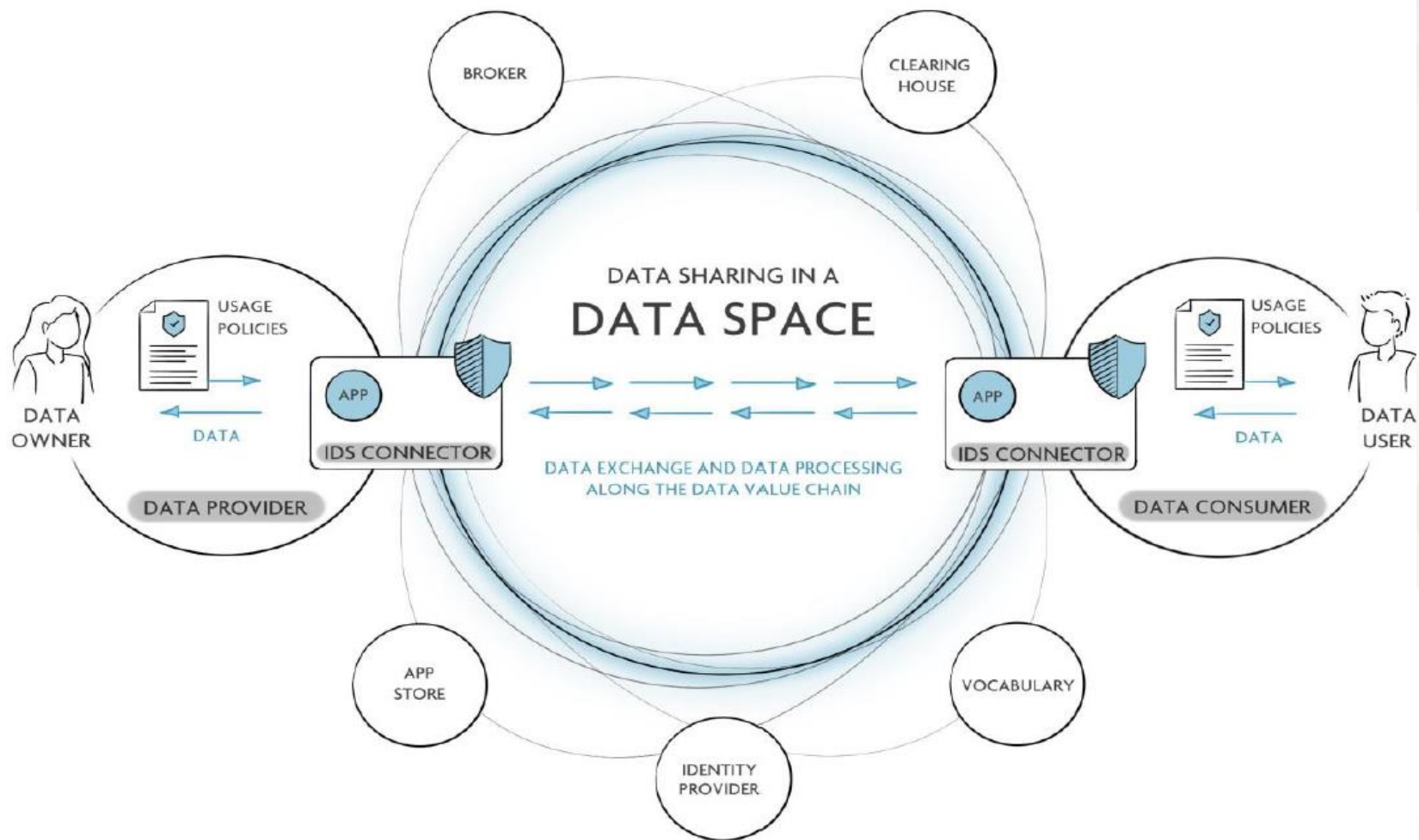
Free flow of data
across sectors and
countries

Full respect of GDPR

Horizontal
framework for data
governance and data
access



- Technical tools for data pooling and sharing
- Standards & interoperability (technical, semantic)
- Sectoral Data Governance (contracts, licenses, access rights, usage rights)
- IT capacity, including cloud storage, processing and services



© International Data Spaces

Building the European data space for agriculture

CSA data space for agriculture

A project is funded by the European Commission through the Digital Europe Programme

Consortium partners



Funded by the
European Union

Duration = **18 months**,
from Oct. 2022 to March 2024



HOCHSCHULE OSNABRÜCK
UNIVERSITY OF APPLIED SCIENCES



Methodology

From the mapping of the data sharing initiatives to designing a roadmap



Data Sharing

understanding and mapping of the data sharing landscape



Building blocks

for a profitable and responsible EU data space in Agriculture



Data Space

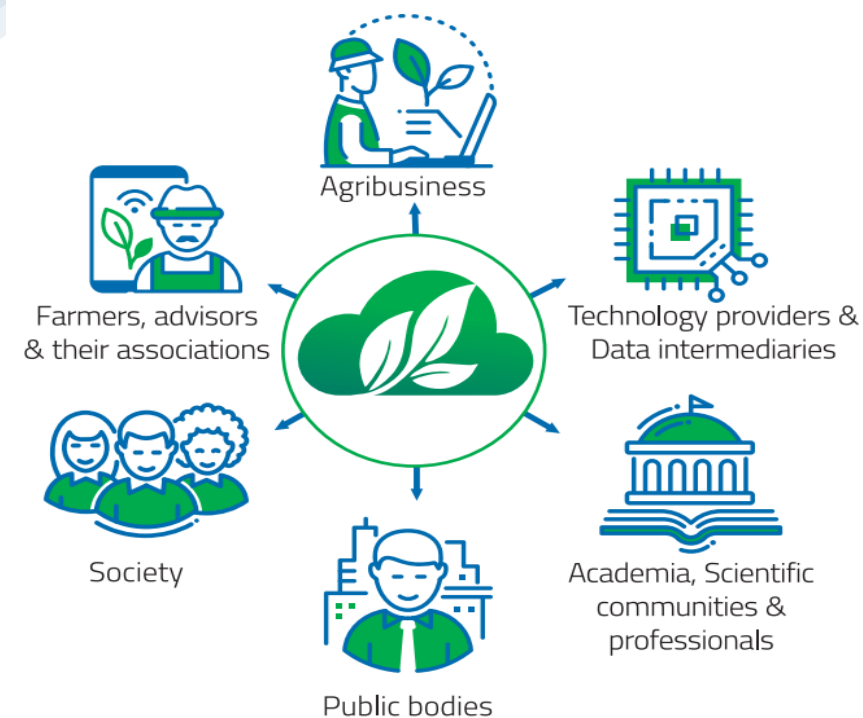
a tool for change: roadmap towards the data space for agriculture

How?

AgriDataSpace integrates a **consultation process to give feedback and recommendations** on **progress and results**; it will **test, verify, and challenge the findings** based on stakeholders' experience

Find a consensus

- Engage stakeholders in various activities for evaluation and validation to reach broad consensus on the design of the data space for agriculture.



European Ecosystem Development on Digital Transformation

Future Internet PPP



**Open Source
Software Ecosystem**

Industry 4.0



**Network of Digital
Innovation Hubs**

Data spaces



**Data Economy for
Sustainable Food Systems**

Mapping the Data Sharing Landscape

Goal:

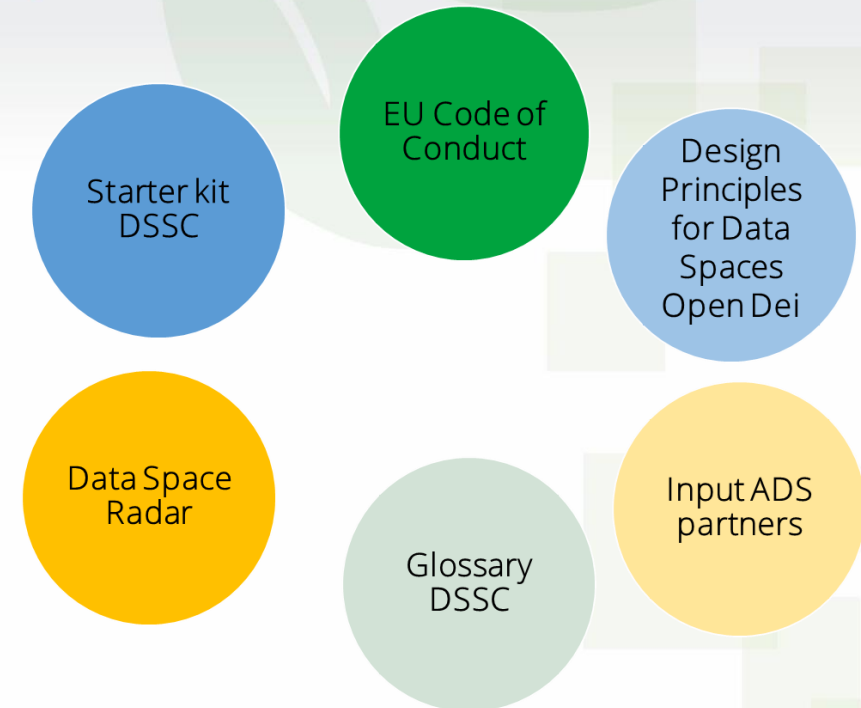
- Map the relevant data sharing initiatives to make a representative inventory of existing platforms sharing agri data
- Form the basis for the analysis and assessments of WP2 and WP3
- Take stock of experiences gained with EU code of conduct on agricultural data sharing by contractual agreement

Approach:

- Develop a holistic analysis framework
- Survey
- 6 workshops in April
 - input for the mapping
 - input of experiences with the EUCC

Holistic analysis framework

- General information on the DSI
- Operational aspects of the DSI
- Stakeholders of the DSI
- Institutional governance of the DSI
- Governance of data sharing
- Data sovereignty



What is a **data sharing initiative**?

- Initiatives aiming at *“providing data access for use by others, subject to applicable technical, financial, legal, or organisational use requirements”* (OECD, 2021)
- The initiatives include building blocks needed to share data

Type

- Internal access system
- Data platform with restricted unilateral or multilateral external access
- Open multi-sided platform
- Open data common

Level of the data space architecture

- Ecosystem for data sharing
- Agricultural domain specific
- General soft infrastructure





GS1

365Farmnet

iDDEN

AgGateway
Europe

IACS

OSC

NIVA

FAST - Agata
Consent

EU-Farmbook

SOLID

SIMPL

IDSA Rulebook

IDSA reference
architecture

IDS certification

DS Connector

IDS reference
Testbed

IDS DIN SPEC
27070 -
standard

Gaia X Eclipse
Data Connector

Gaia-X Digital
Clearing House
(GXDCH)

OGC

AIM

John Deere
Operations
Centre

Thales

Gaia-X

Vlaamse Smart Data
Space

WALLeSMART

Unovia

Soil Passport

DjustConnect

Datanutsbedrijf

WatchItGrow

Care4Growing

AVR connect

AVRconnect

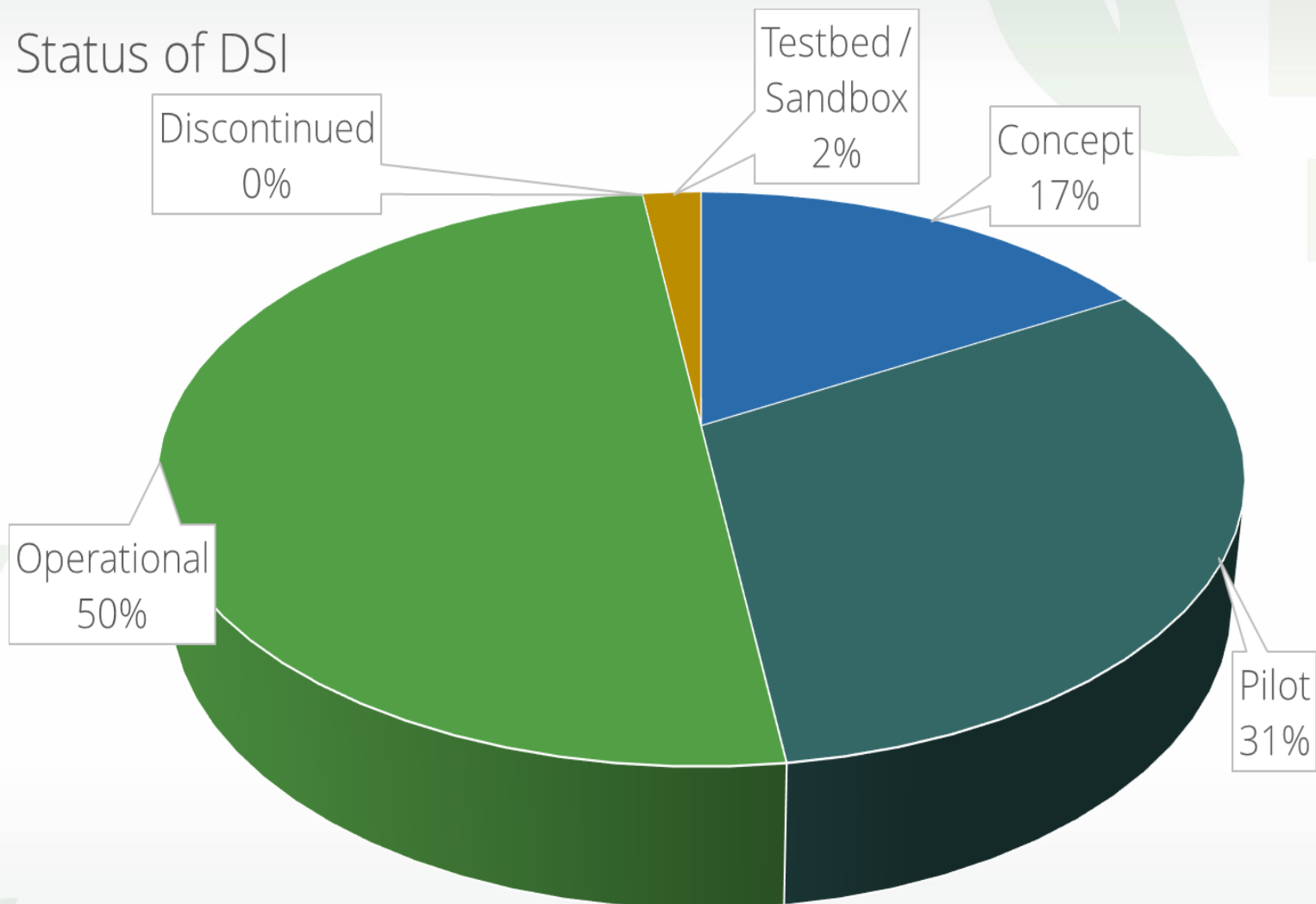
Mapeo

Agremo

Isagri

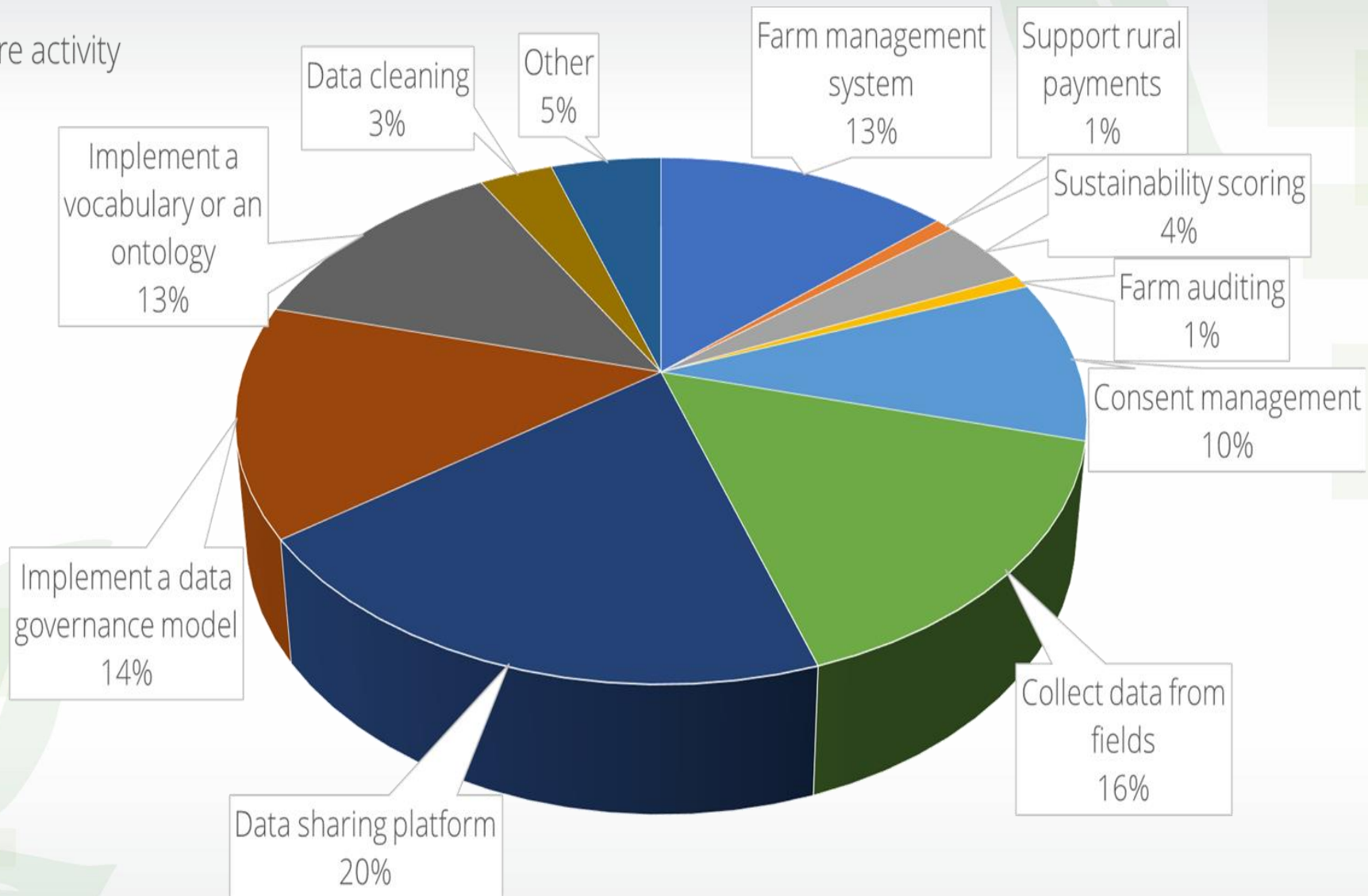
De Watergroep

Some first survey results based on the input of 45 DSIs

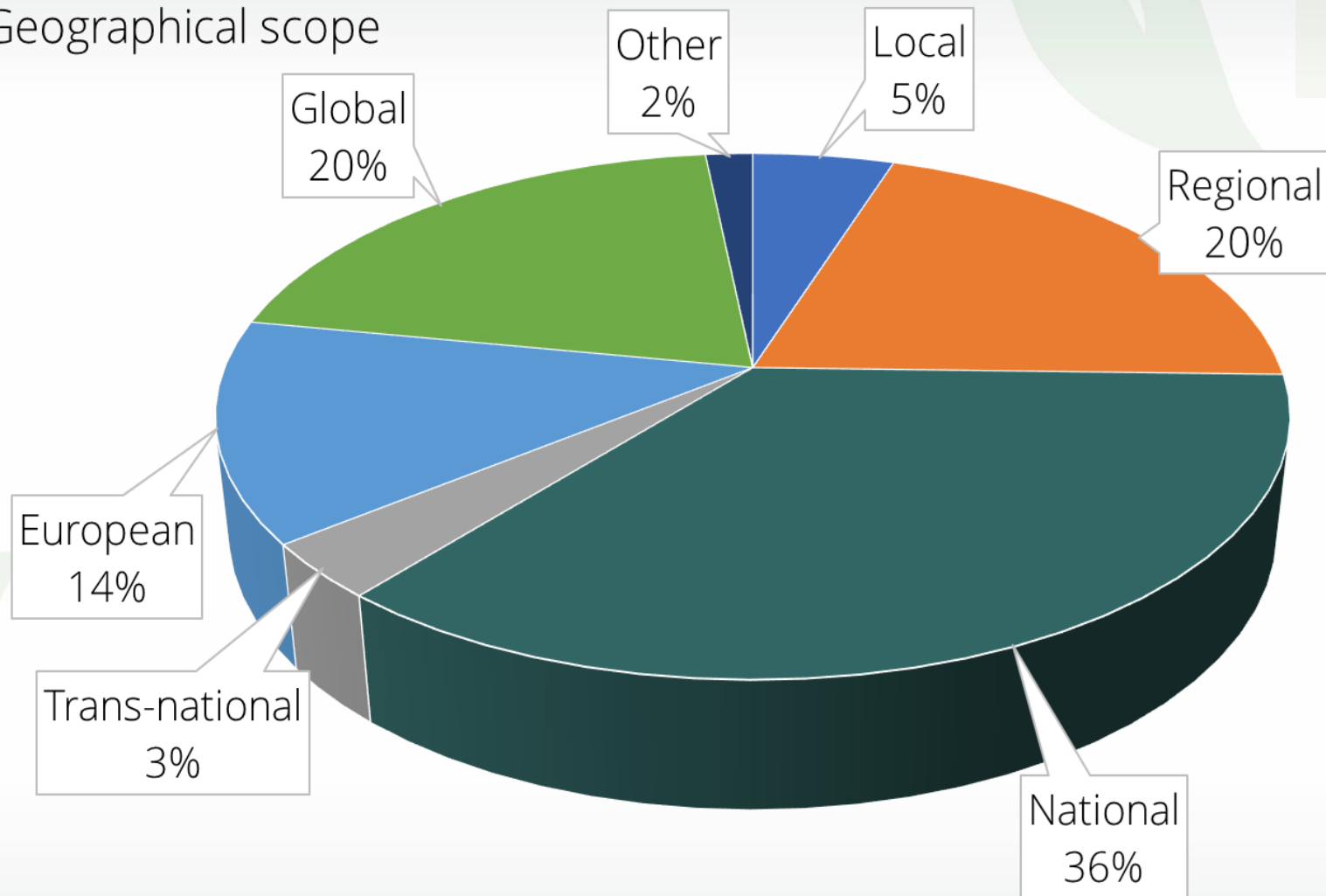


General info

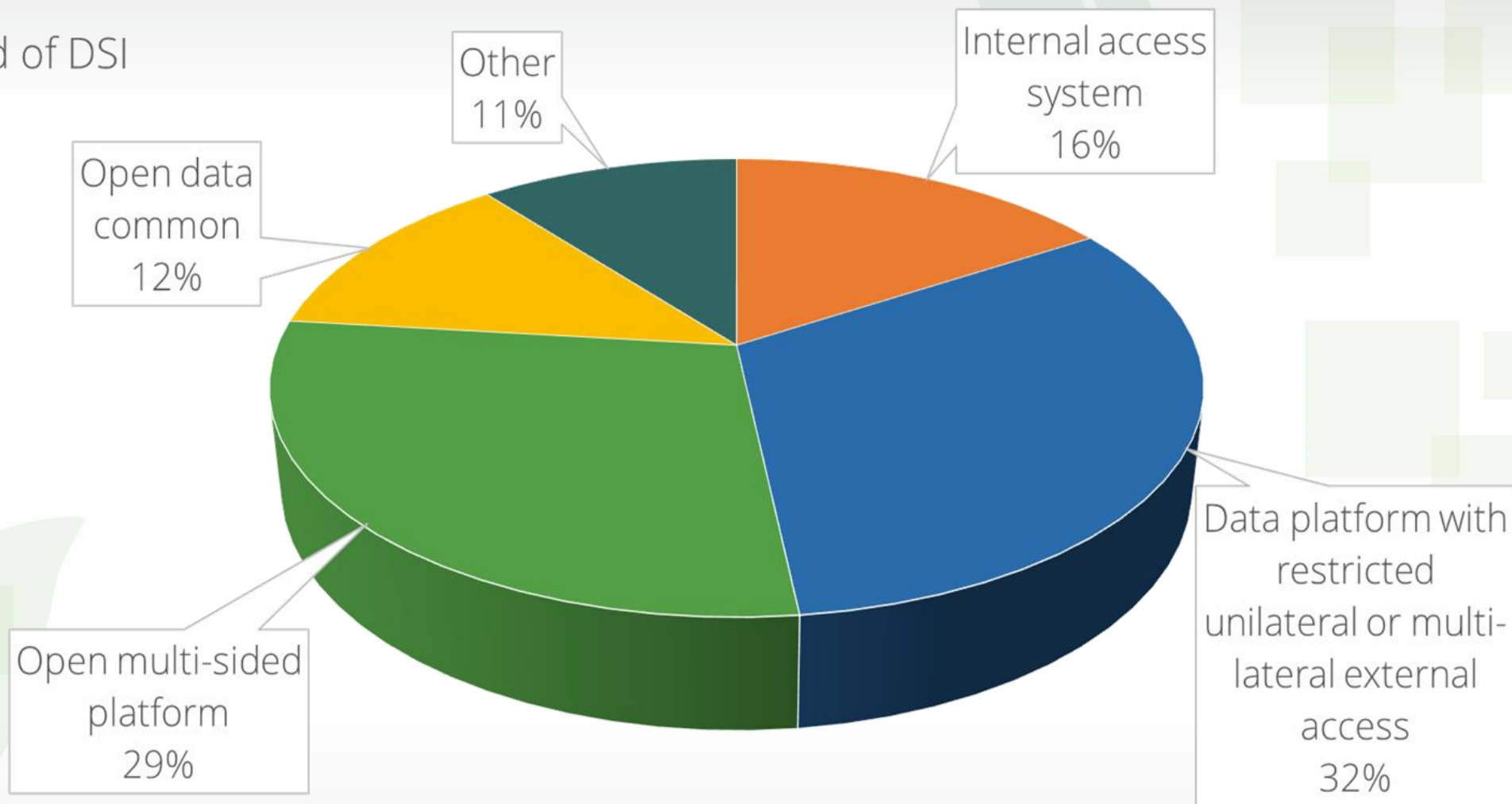
Core activity



Geographical scope



Kind of DSI



Illustrative examples for each layer

Ecosystems for data sharing / data space



Agriculture domain specific soft infrastructure



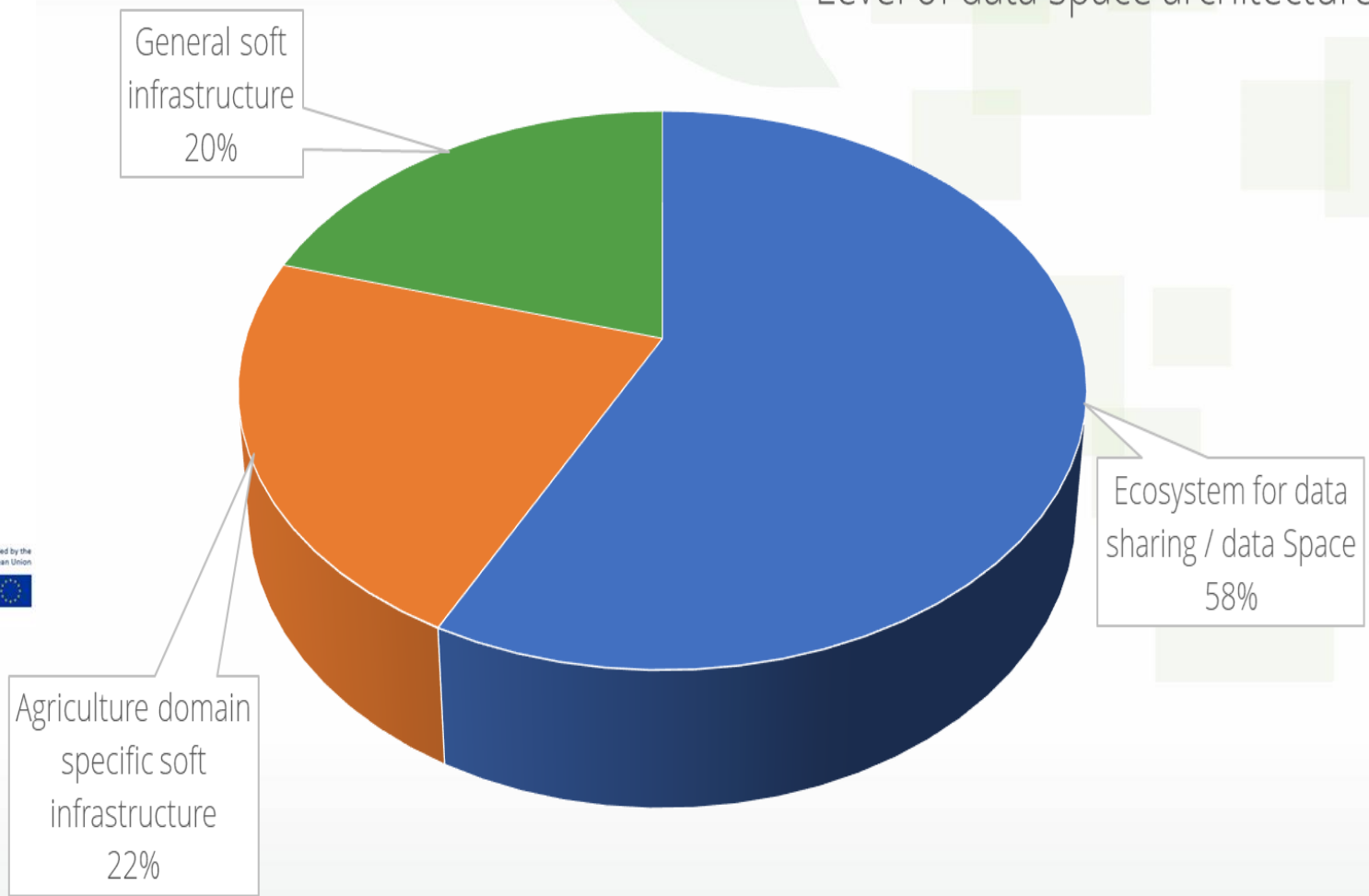
General soft infrastructure



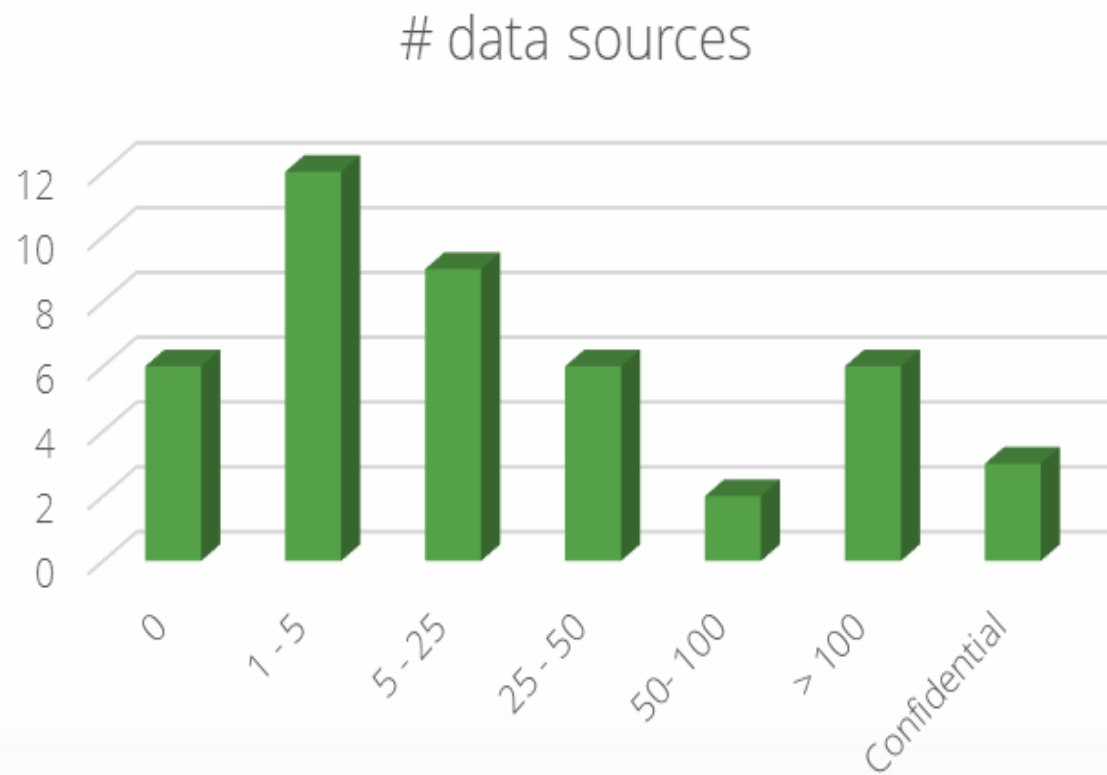
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Based on Design principles developed in Open Dei project

Level of data space architecture

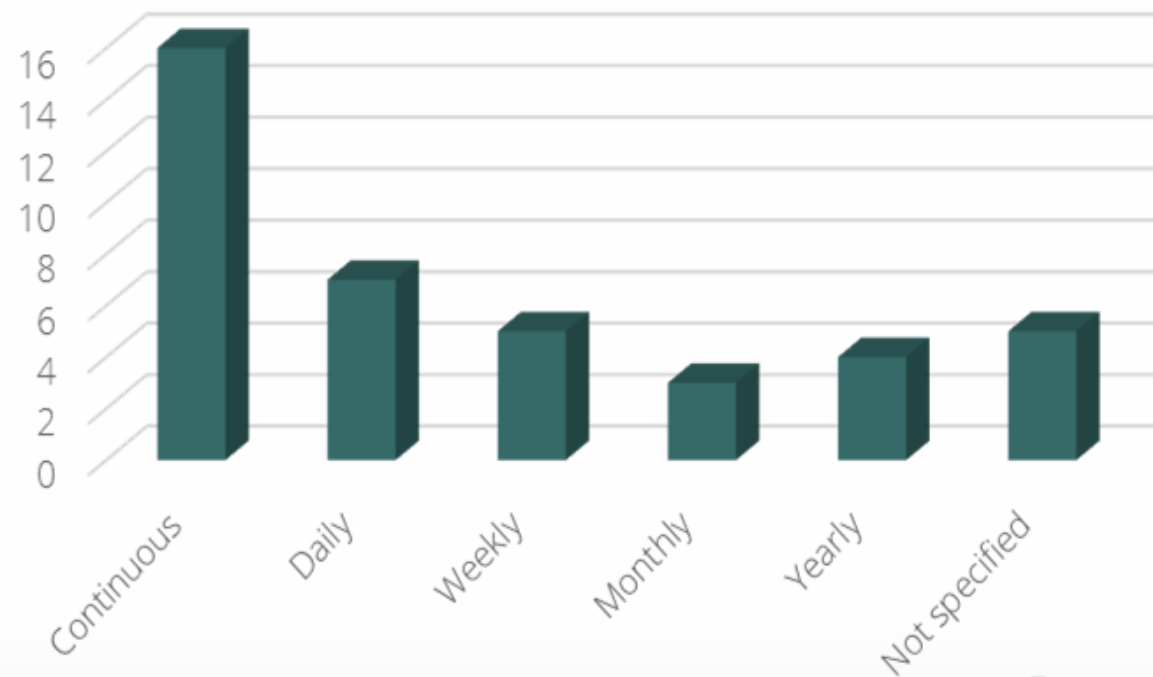


Operational aspects



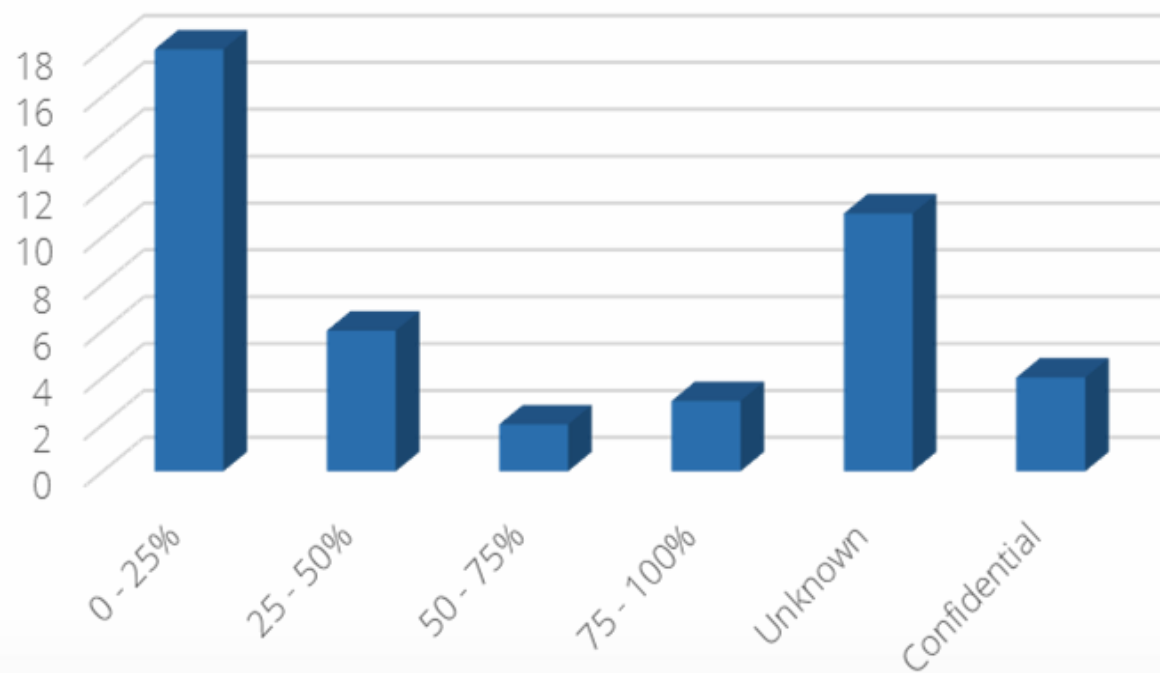
Operational aspects

Frequency of data updates



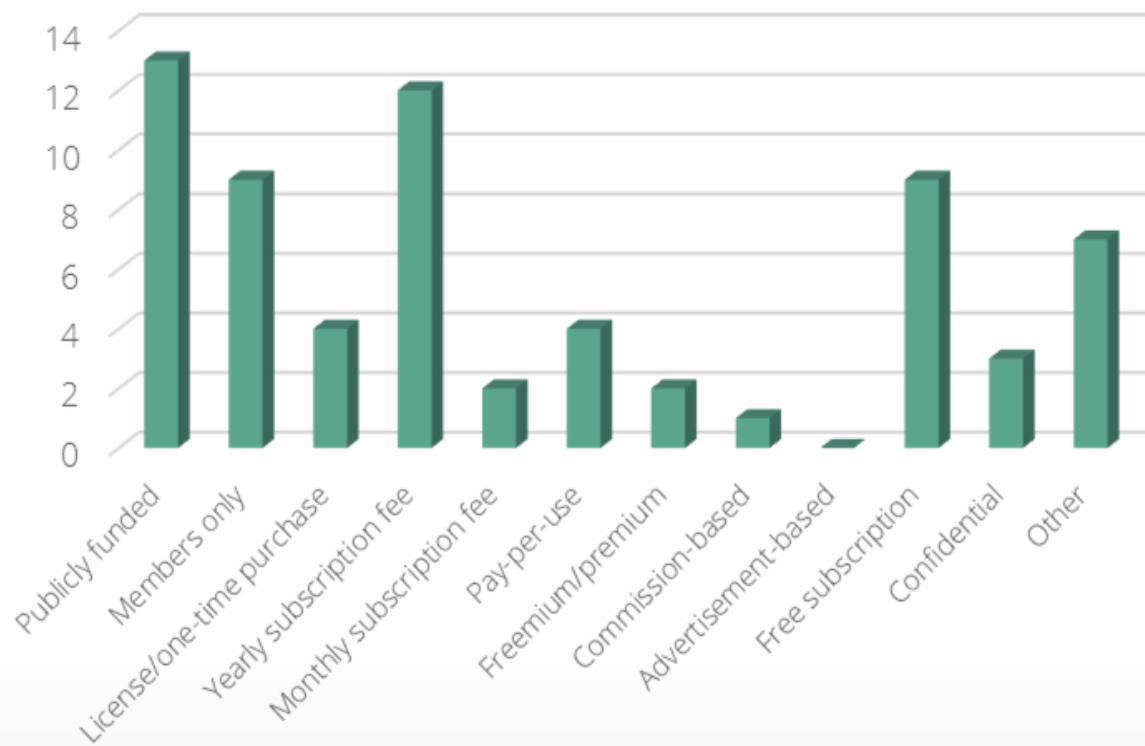
Operational aspects

% of data transacted that is public



Operational aspects

Revenue model DSIs



Stakeholders: for which benefits do users share data?

Benefits	Data rights holders	Data providers	Data consumers	Data technology providers
For monetary compensation	13,3 %	22,2 %	11,1 %	15,6 %
For services	44,4 %	28,9 %	35,6 %	24,4 %
For administrative simplification	28,9 %	20,0 %	24,4 %	11,1 %
For the common good	20,0 %	15,6 %	15,6 %	6,7 %
For knowledge	35,6 %	26,7 %	35,6 %	22,2 %
For increased market share	4,4 %	24,4 %	17,8 %	17,8 %
For advice	37,8 %	24,4 %	35,6 %	6,7 %
For the uptake of technology	11,1 %	26,7 %	17,8 %	17,8 %
For a discount	8,9 %	8,9 %	4,4 %	2,2 %
Other	11,1 %	11,1 %	11,1 %	11,1 %

Institutional governance

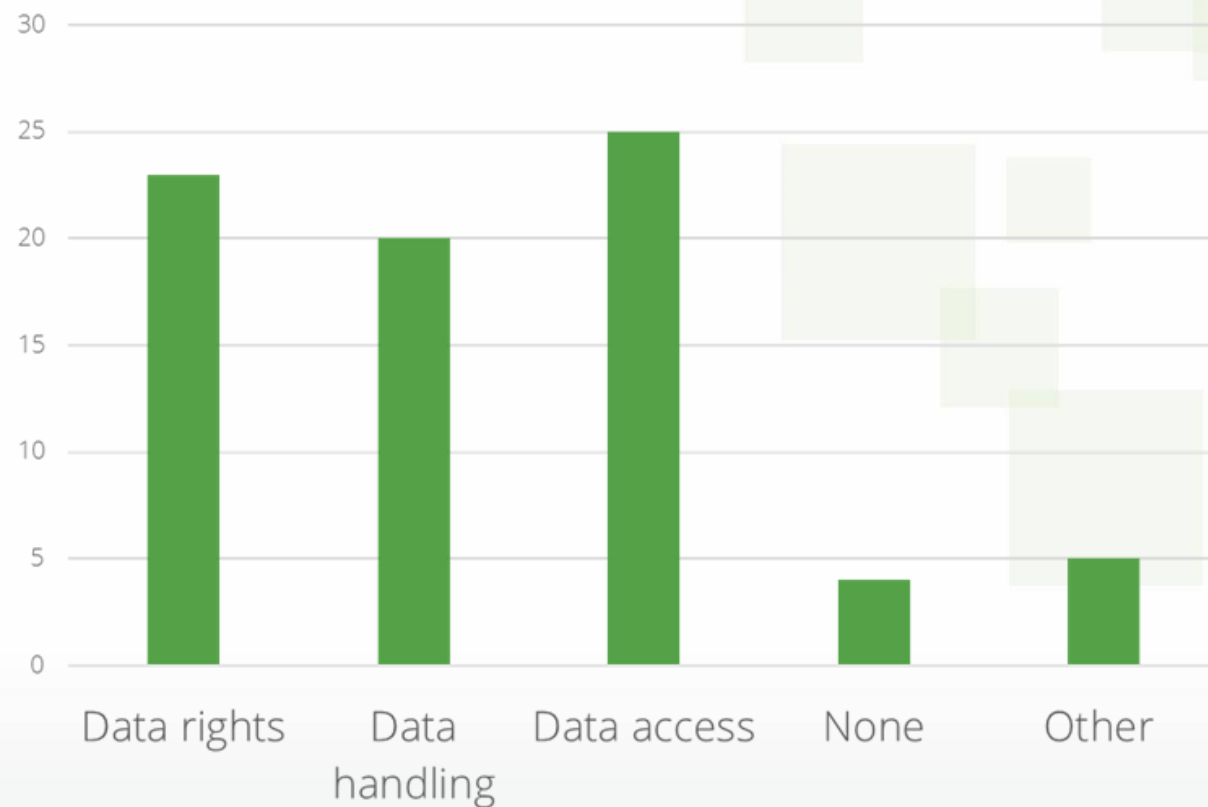


Governance of data sharing

Building blocks

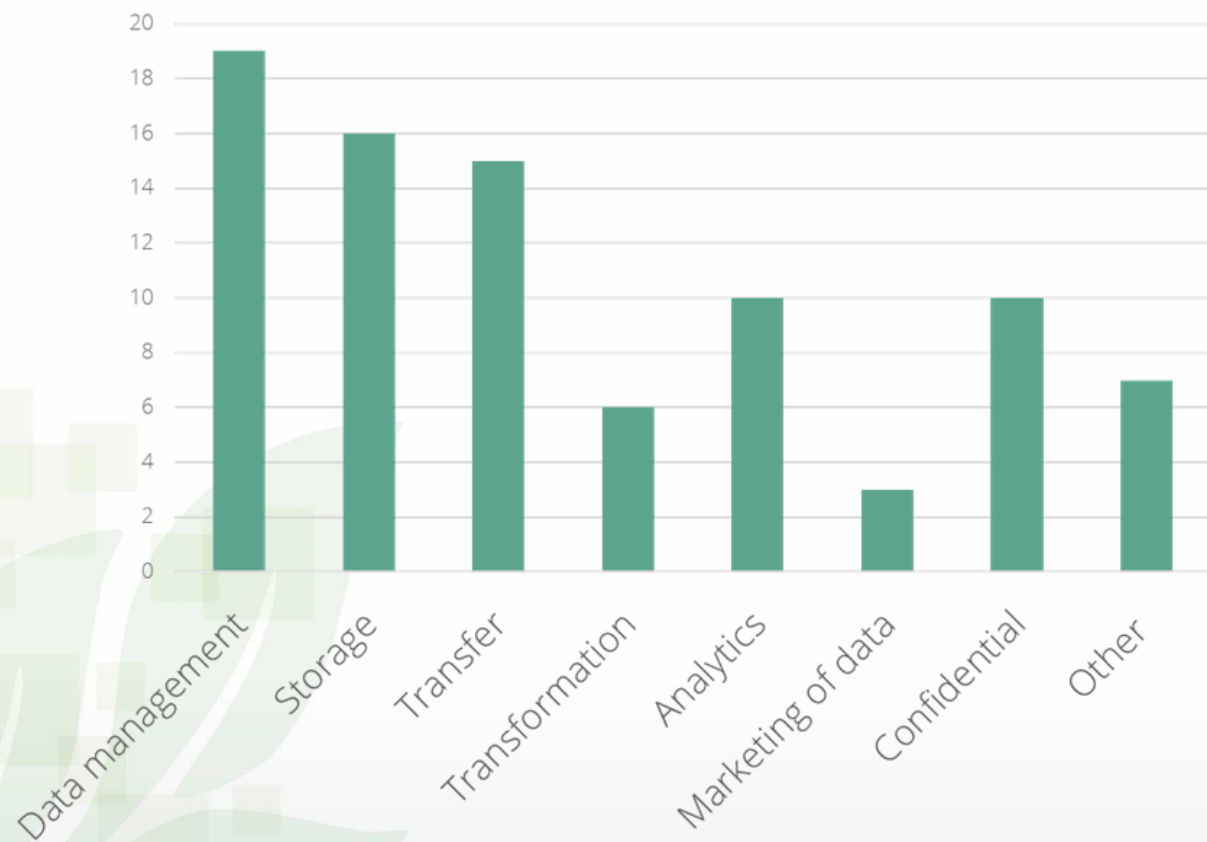


Aspects of data sharing being managed

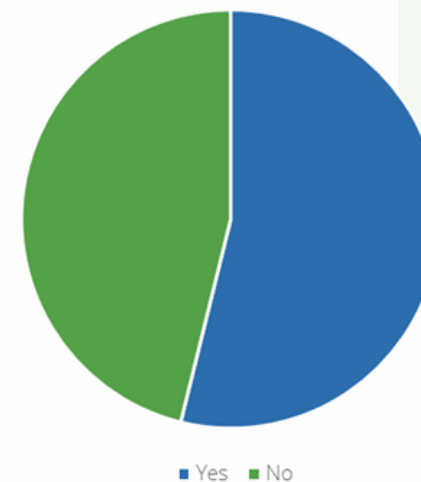


Governance of data sharing

Rules for following activities



Use of domain standard

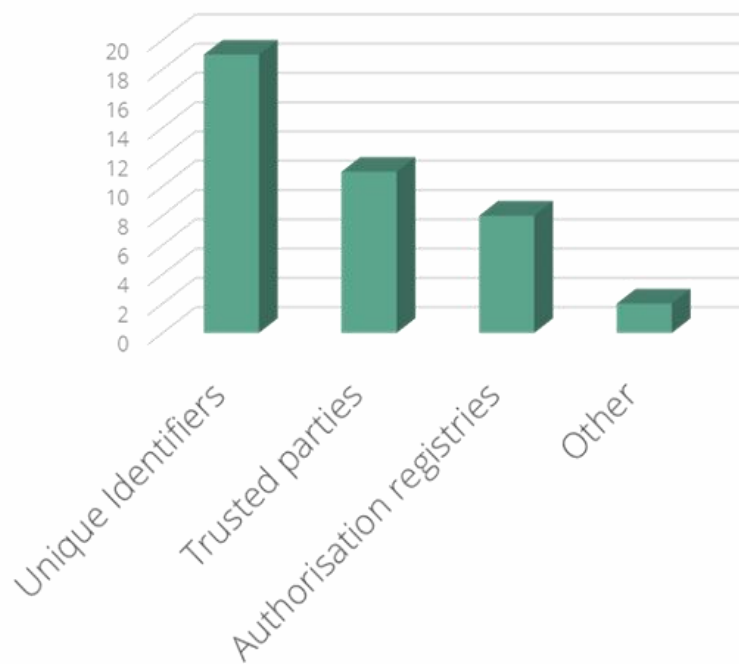


Data sovereignty

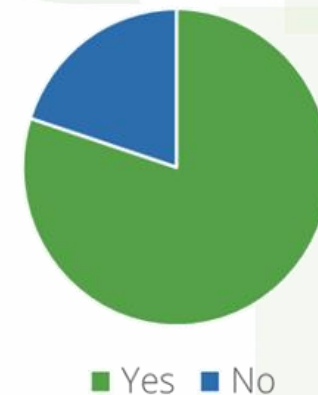
CoC implemented



Trust mechanisms



Cybersecurity measures



Action – ground work?

BELGIAN DATA SPACE ALLIANCE



The image shows a promotional banner for "Belgian Data Spaces Day" held on May 31 at Tour & Taxis, Brussels. The banner features a network of glowing nodes and lines against a dark blue background. Below the main title, a collage of logos for the event's partners is displayed, including AGORIA, imec, KU LEUVEN, DIGITAAL VLAANDEREN, paradigm.brussels, Agence du Numérique, and athumi.

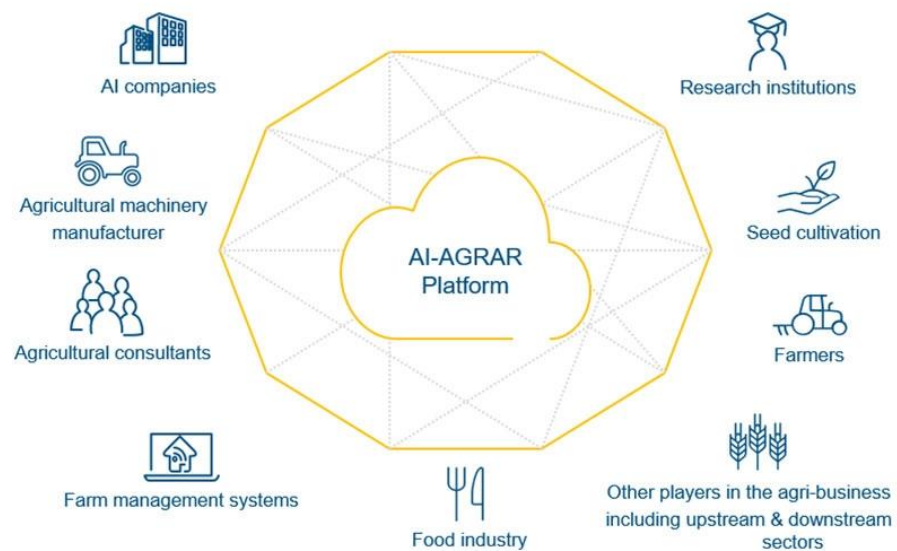
Belgian Data Spaces Day May 31
Tour & Taxis, Brussels

.AGORIA **imec** **KU LEUVEN**

DIGITAAL VLAANDEREN   **paradigm.brussels**  Agence du Numérique

athumi 

GAIA-X working group on agriculture





Fair and powerful data economy for sustainable food systems



European Testing and Experimentation Facilities for Agrifood Innovation



Raffaele Giaffreda
Italy



Stefan Stiene
Germany



Agnès Delaborde
France



Kees Lokhorst
The Netherlands



Jürgen Vangeyte
Belgium



Lukasz Lowinski
Poland



Jonas Engström
Sweden



Heinrich Prankl
Austria





And what
about you?

- <https://survey.ilvo.be/index.php/897335?lang=en>



Pathway towards a secure and trusted
European data space for agriculture

Thank you

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Jurgen.vangeyte@ilvo.vlaanderen.
be

AgriDataSpace Online [agridataspace-csa.eu](https://www.agridataspace-csa.eu)



<https://www.linkedin.com/company/agridataspace>



https://www.youtube.com/channel/UCoQmdiOXjU3Tzq_qmxAOj6Q



<https://www.facebook.com/agridataspace/>



<https://twitter.com/AgriDataSpace>