



Introductie

Centre of Excellence for Data Sharing & Cloud

september 2024 – Peter.Verkoulen@CoE-DSC.nl



All major societal innovation challenges require some form of data sharing



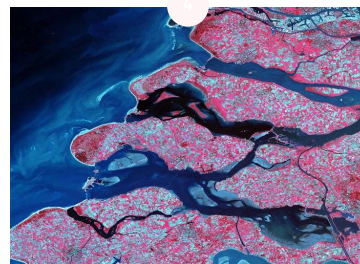
Smart Energy



Smart Cities



Smart Society



Smart Climate Solutions



Smart Agriculture



Smart Production



Smart Resources



Smart Health



Smart Security



Smart Mobility

A large iceberg floats in a calm blue sea under a clear sky. The visible tip of the iceberg represents the small portion of data shared by companies, while the much larger submerged part represents the vast majority of data that remains hidden. The water's surface is smooth, reflecting the sky and the iceberg's form.

Companies only share 2% of their data

because they don't trust each other

Data Spaces provide the trust they need

EU Data Strategy



**Data Spaces
Support Centre**
Coordination and governance

Coordination



European Alliance for
Industrial Data, Edge
and Cloud

**IPCEI* on Next
Generation
Cloud**
(*Important Project of
Common European
Interest)

Cloud actions:

Cloud Rulebook

Co-Investments in cloud-to-edge services, cloud federation and marketplaces.

Data actions:

New legislation (Data Act, Data Governance Act, etc.)

Co-investments in common European data Spaces



DIGITAL EUROPE
PROGRAMME

Federation &
interoperability standards

Complementing & integrating
private and public initiatives, e.g.:

Use cases;
technical architecture

[Source: EC, DG Connect]



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EU: de “Common European Data Spaces” & generieke initiatieven als “wortel” om te komen tot meer, en meer gecontroleerd data delen

Generiek op EU-niveau



EU Data Spaces



SIMPL



Sector specifiek

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



Niet-uitputtend



En de “stok” in de EU Data Strategie als drijvende kracht achter meer, en tegelijkertijd meer gecontroleerd data delen

Generieke Europese wetgeving

Sector specifiek

Niet-uitputtend

In werking

In ontwikkeling

Digital Markets Act
2022*

Digital Services Act
2022*

Data Governance Act
2022*

Data Act
2024*

Artificial Intelligence Act
2024*

Health data space
2024*

GDPR
2016*

Open Data Directive
2019*

Corporate Sustainability Reporting Directive
2023*

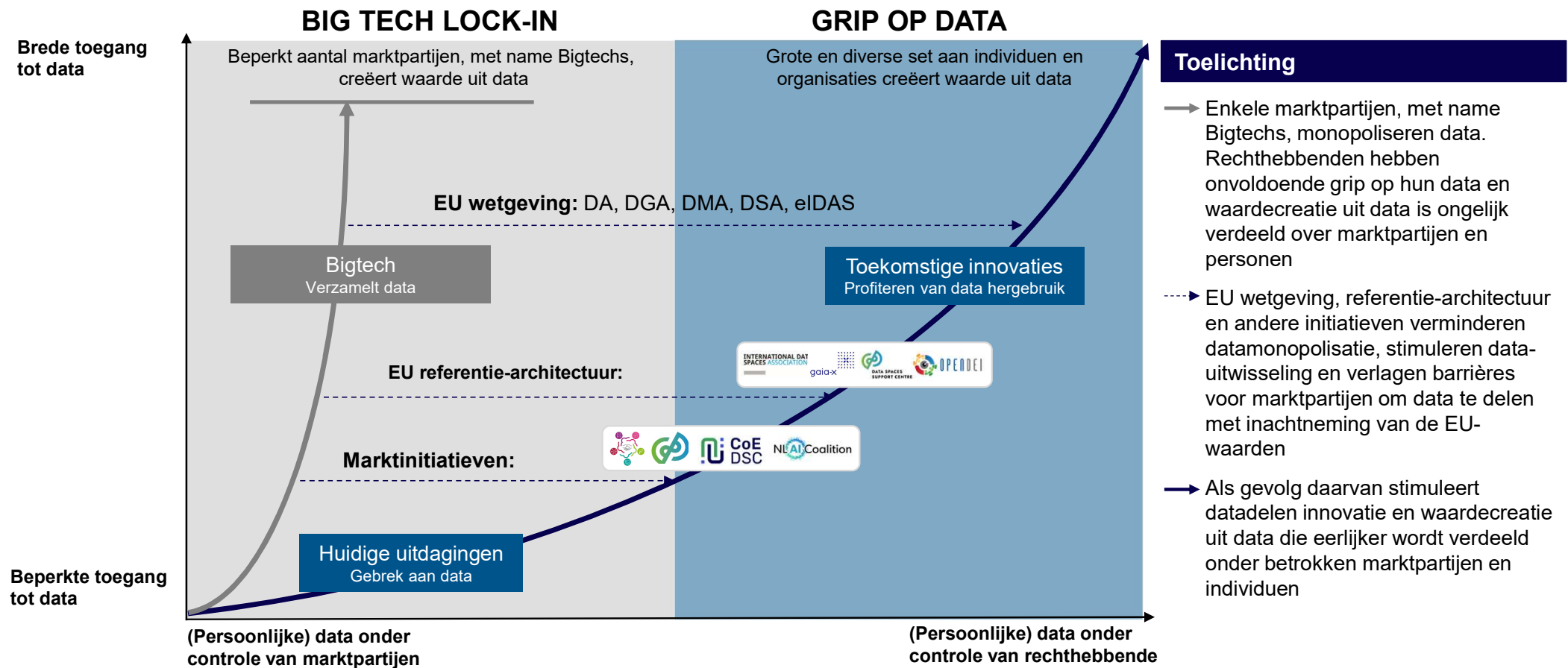
Revision eIDAS
2024*

Revision PSD2 + Open Finance Framework
2024*

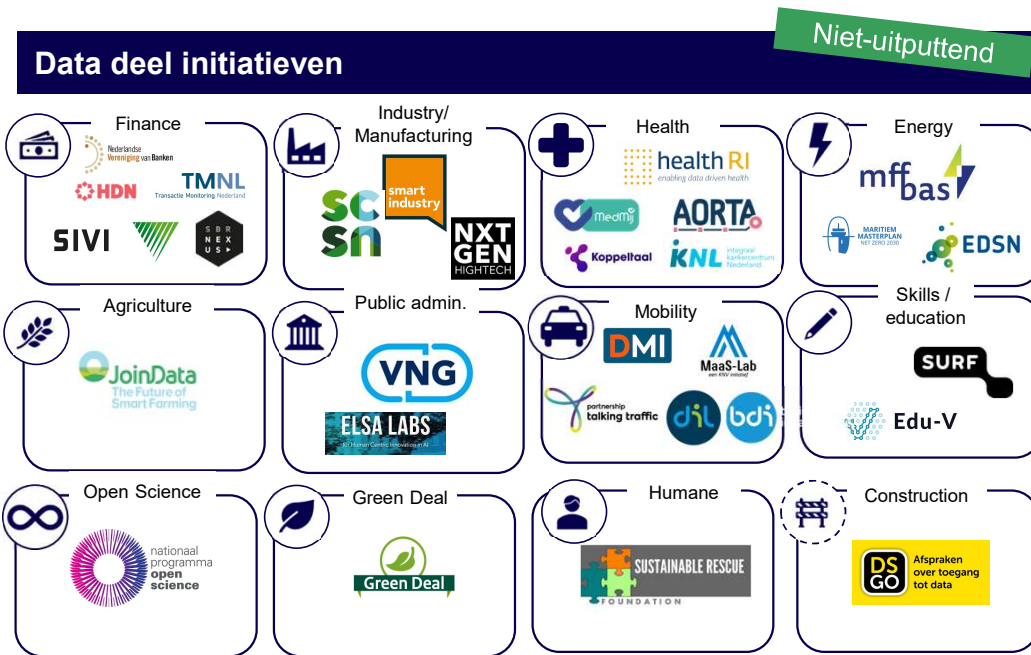
ESPR digital product passport
2024*

*= jaar inwerkingtreding, typisch gevolgd door 24 maanden implementatieperiode

Het CoE-DSC ondersteunt de ontwikkeling van soeverein datadelen om economische en maatschappelijke waarde te creëren uit data



In Nederland bestaan/ontstaan steeds meer sectorale datadeel-initiatieven en aanbieders van datadeel-diensten



Enkele kentallen

- **±50 grote data deel initiatieven in NL.**
- **Ruim 20.000 NL organisaties – veelal MKB - verbonden met een live datadeel initiatief. B.v.:**
 - [HDN](#) 60 hypotheekverstrekkers en alle financieel adviseurs
 - 400 leveranciers verbonden via [SCSN](#), via 10+ intermediars.
 - 7.800 melkveehouders met 260 agri- en inspectiepartijen via [JoinData](#)
- Naast **EZK** zijn vooral ook **BZK, I&W en VWS** actief
- **Groeifonds** projecten met een sterke datadeel component
- Enige tientallen **Nederlandse cloud service providers**

Data space dienstverleners (van connectors-as-a-service tot cloud tot PET tot ...)



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Voor oplossen maatschappelijke en economische vraagstukken moeten data uit verschillende bronnen met elkaar gecombineerd kunnen worden ("**data delen**"). Ook **data delen over grenzen van sectoren en landen** heen.



Borgen **soevereiniteit** is voorwaarde. Dit kan alleen **schaalbaar** worden opgelost door **een federatieve aanpak**.



Federatieve aanpak vereist in alle lagen van de stack



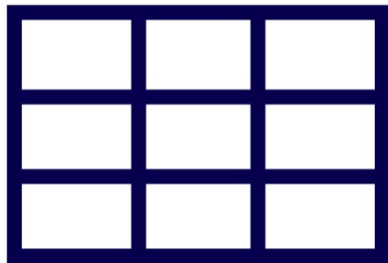
Nederland is geen eiland in de digitale wereld - het CoE-DSC verbindt dus actief met relevante **Europese en internationale ontwikkelingen**, zoals Gaia-X, IDSA, DSSC, SIMPL en de Europese wet- en regelgeving



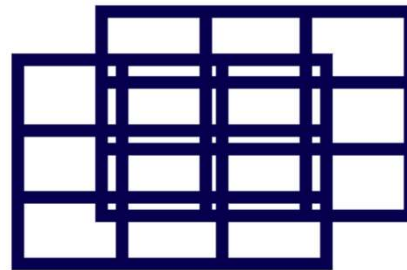
Nederland kent veel sectorale, regionale, op specifieke technologie gerichte initiatieven rondom data delen. Het **CoE-DSC verbindt (en integreert)** deze en zorgt voor **uitwisseling van kennis en ervaring**.

CoE-DSC richt zich de komende jaren op 3 hoofddoelen

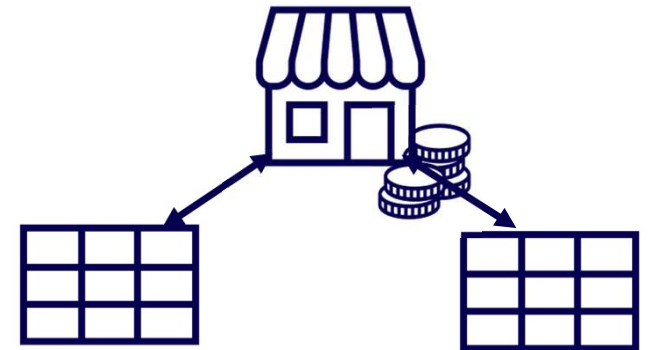
Naar volwassen
data spaces



Naar interoperabiliteit: cross-dataspace data
delen en federatieve cloud



Naar volwassen vraag, diensten en
aanbieders data delen en (federatieve) cloud



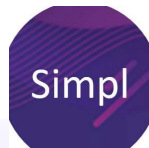
- In verbinding met **Europese wet- en regelgeving en initiatieven**
- In **co-creatie** met bestaande datadeel initiatieven, grote en kleine bedrijven en andere belanghebbenden
- Federatieve oplossingen vergroten de **digitale soevereiniteit** doordat ze het combineren van oplossingen (**interoperabiliteit**) en overstappen (**portabiliteit**) vergemakkelijken

Het CoE-DSC ondersteunt NL Data Spaces door ontwikkeling van use cases, generieke tools/kennis en een actieve community

CoE-DSC vervult de rol van Gaia-X NL hub, IDSA NL hub en Werkgroep Data Delen van de NLAIC



CoE-DSC verbindt met tal van (inter)nationale initiatieven > één loket voor Nederlandse organisaties



Activiteiten van het CoE-DSC...



Use case ontwikkeling: Het CoE-DSC ondersteunt bij de ontwikkeling van (cross-sectorale) use cases binnen data spaces



Harmonisatie: Het CoE-DSC ontwikkelt generieke tools en kennis voor de ontwikkeling van data spaces inclusief onderliggende (federatieve) cloud infrastructuur



Community: Het CoE-DSC ontwikkelt en onderhoudt een actieve community waarin kennis wordt uitgewisseld en partnerschappen ontstaan

... leveren waarde voor (sectorale) Data Spaces

- **Interoperabiliteit** zodat data ook over verschillende organisaties heen gebruikt kunnen worden, ook tussen sectoren
- **Hergebruik van kennis en oplossingen** op zowel de data- als de cloud laag, doorbouwen op elkaar in plaats van telkens opnieuw het wiel uitvinden
- **Uniform** kanaal van en naar “Europa”
- **Stimuleren van aanbodontwikkeling** in de markt en **verbinden van vraag en aanbod** rondom datadelen en (federatieve) cloud
- **Eén loket** in Nederland voor **datadeelvraagstukken** (en alle gerelateerde onderwerpen)



Missie: Het CoE-DSC heeft als doel het waarde-potentieel van datadelen te verzilveren door Nederlandse organisaties vanuit één plek te ondersteunen in het realiseren van schaalbare Data Spaces en de link te leggen met Europese ontwikkelingen op zowel data- als cloud gebied



Internationale initiatieven



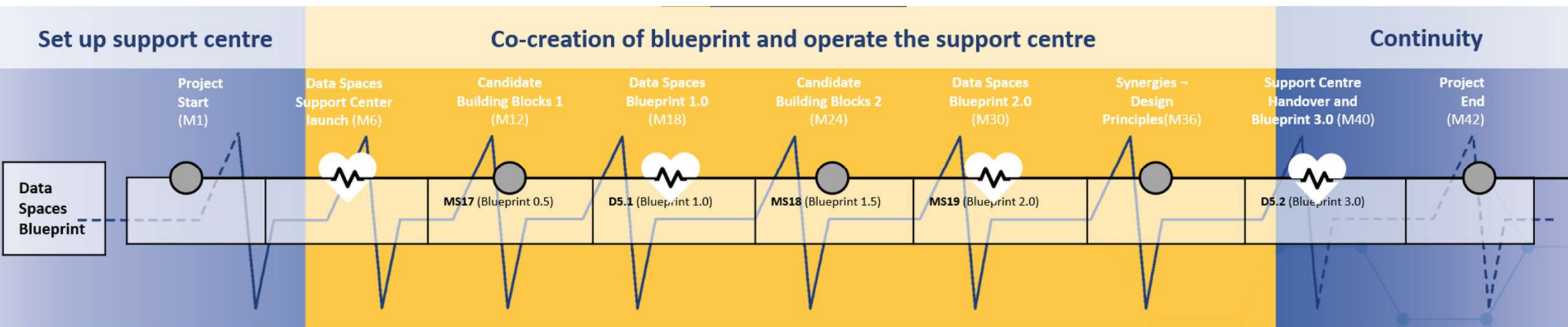
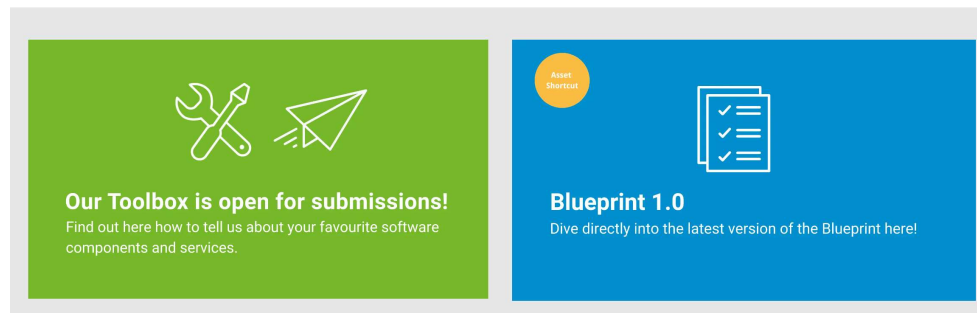
TOPSECTOR
ICT
dutch digital



Data Spaces Support Centre (DSSC)



DSSC input: Blueprint 1.5 (to be published soon) and Toolbox 1.0





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International Data Spaces Association
(IDSA)

A large iceberg floats in a calm blue sea under a clear sky. The visible tip of the iceberg is a small fraction of the total mass, which is mostly submerged. This visual metaphor represents the statement that companies only share 2% of their data.

Companies only share 2% of their data

because they don't trust each other

Data Spaces provide the trust they need

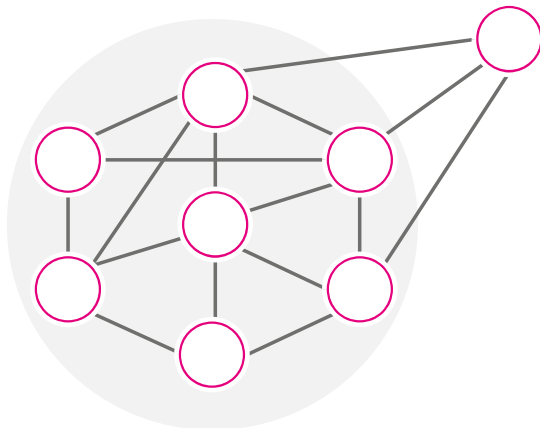
The data space approach

...connecting all kinds of data endpoints

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A decentralized and dynamic data ecosystem:
with many-to-many interactions



A **data space** is the sum of all end points that are able to share data with each other.



- Federated data architecture: no physical data integration, leave data where it is
- Interoperability: no silos, no vendor-dependency
- Data Sovereignty and traceability
- Trusted participants

Our northstar: checklist for Data Economy

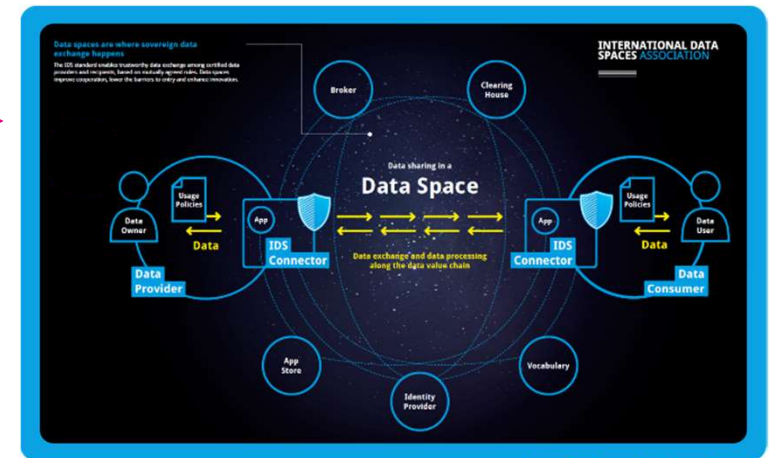
... and blueprint for all data spaces

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What exactly does “data economy” call for?

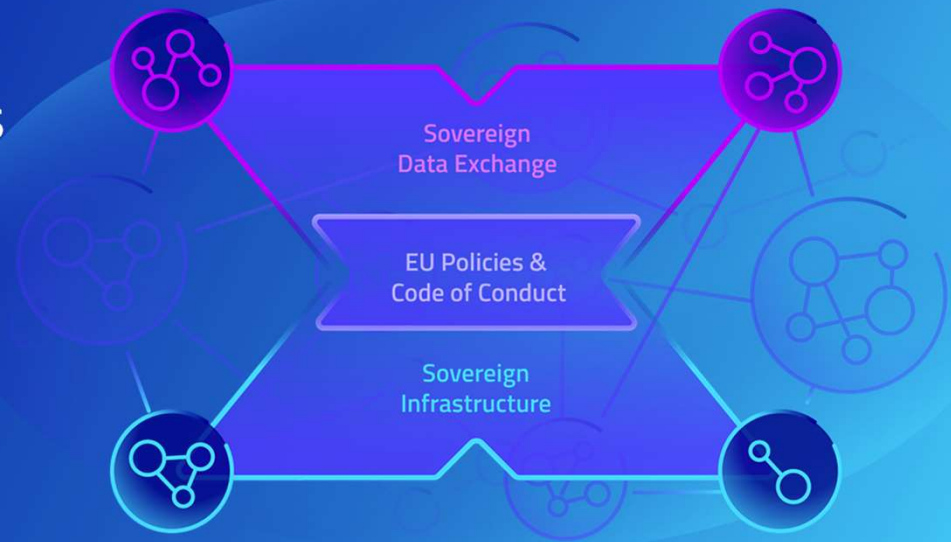
- Secure end2end data exchange
- Trusted parties
- Make FAIR principles work
- Understand others: data models
- Process data, remote execution
- Value Creation in data
- Usage policies and enforcement



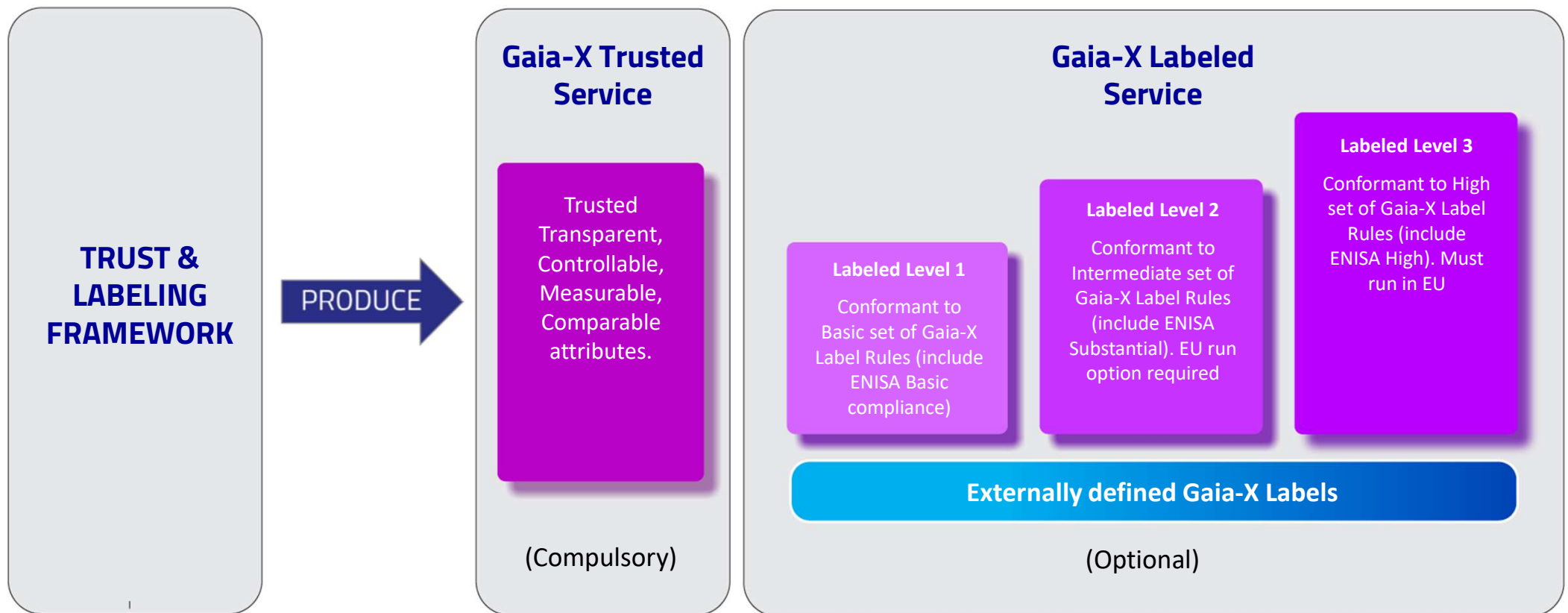
IDS Reference Architecture, Data Space Protocol, IDS Rulebook and IDS-certified connectors guarantee these features



Innovation through digital sovereignty – that’s the goal of Gaia-X. We achieve this by establishing an **ecosystem** in which data is made available, collated and shared in a **trustworthy environment**. What emerges is not a cloud, but a **federated system** that links many cloud services providers and users together.



Gaia-X Rules: Trust & Labelling Framework



Gaia-X Digital Clearing House



MANDATORY GXDCH components



Gaia-X Registry



Gaia-X Compliance



Gaia-X notarisation service for the registration number

OPTIONAL GXDCH components



Wizard



Wallet



Catalogue

Gaia-X Digital
Clearing House



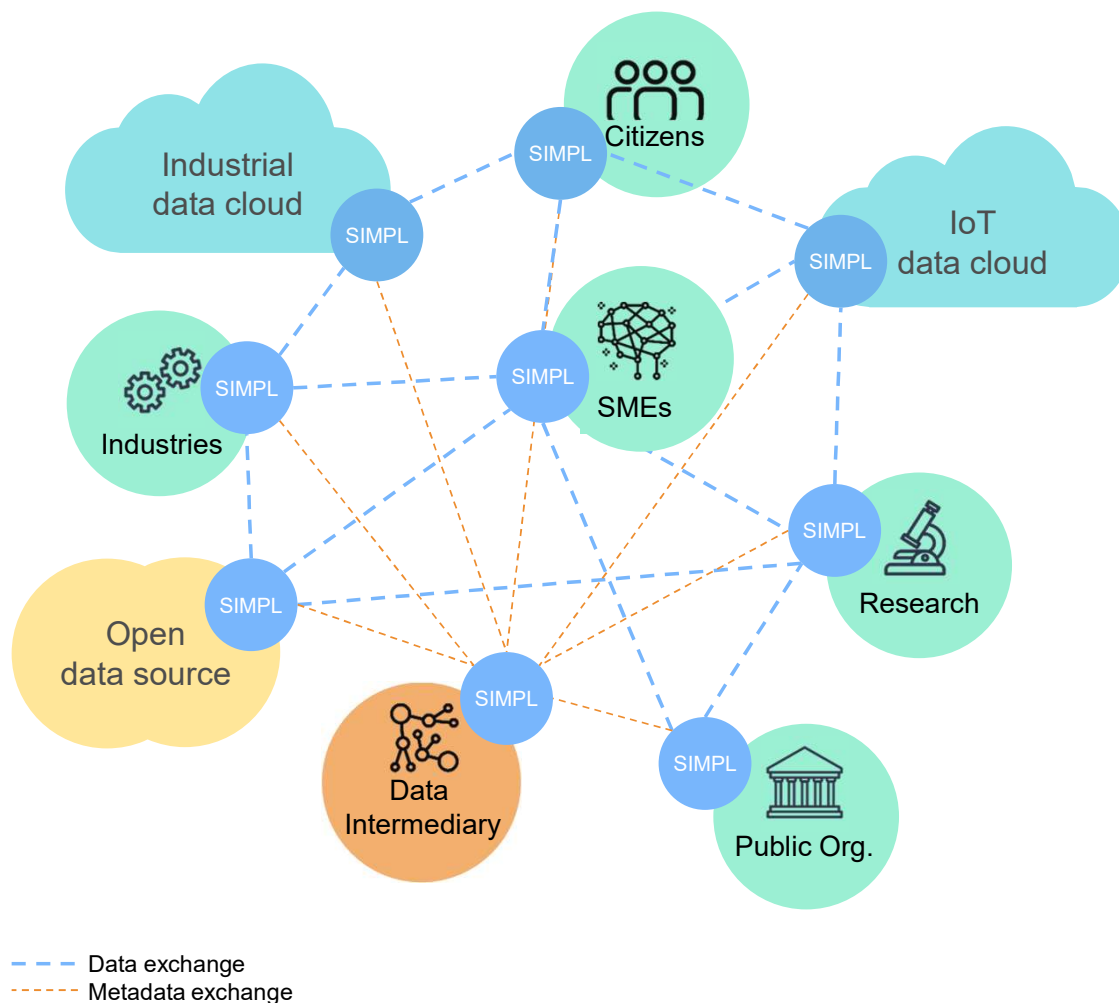
Node

- Each GXDCH must provide public services to implement the compulsory elements necessary to achieve Gaia-X compliance (under the sole governance of the AISBL);
- Each GXDCH can offer (or resell) services to support the extended adoption of Gaia-X (out of the governance of the AISBL);
- Any Gaia-X adopter (user, provider, federator) can use any GXDCH to obtain compliance, join a federation, become a federator (or additional services);
- GXDCH act as a one-stop place for Gaia-X services facilitating the concentration and match of Demand and Offer.

* Current list, may expand in future releases



Simpl is the common software behind common data spaces



Common European Data Spaces are **a federated data ecosystem based on shared policies and rules**. The participants of data spaces are enabled to access data in a secure, transparent, trusted, easy and unified fashion.

Data holders remain in control of who can access and use their data, for which purpose and under which conditions.

Simpl

open-source means built-in trust & security, flexibility to deploy, simplicity to customise

middleware are software suites that enable applications and databases to work seamlessly together and provide a flawless user experience

Simpl is the **open-source** smart **middleware** platform that enables **cloud-to-edge federations** and **all major data initiatives** funded by the European Commission

cloud-to-edge federations put together resources across cloud and edge computing environments as a cohesive system, creating a seamless integrated infrastructure that combines the strength of both cloud and edge computing.

all major data initiatives, in particular the development of **Common European Data Spaces** modular and interoperable way.

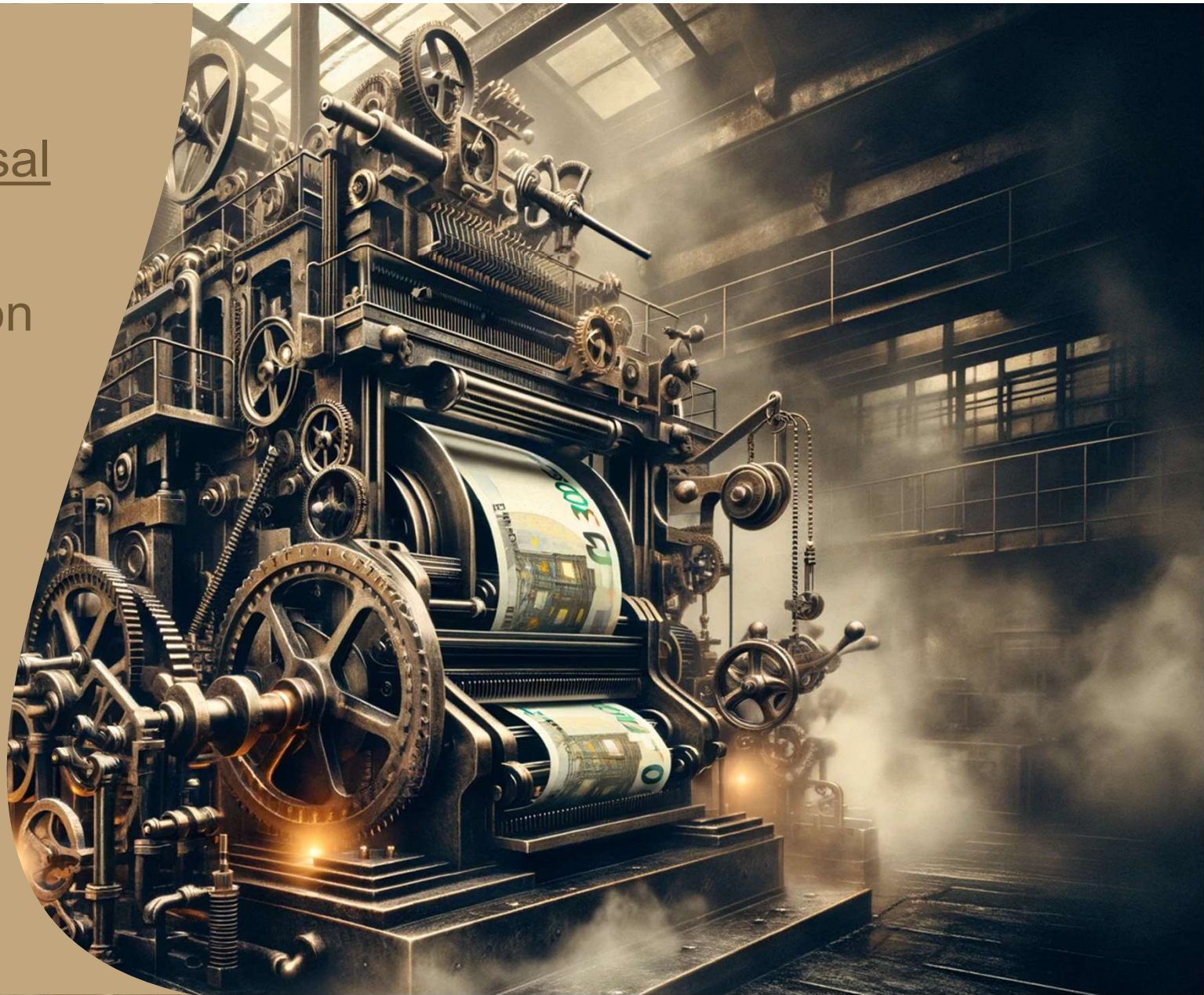
Simpl's value proposal

No wheel re-invention

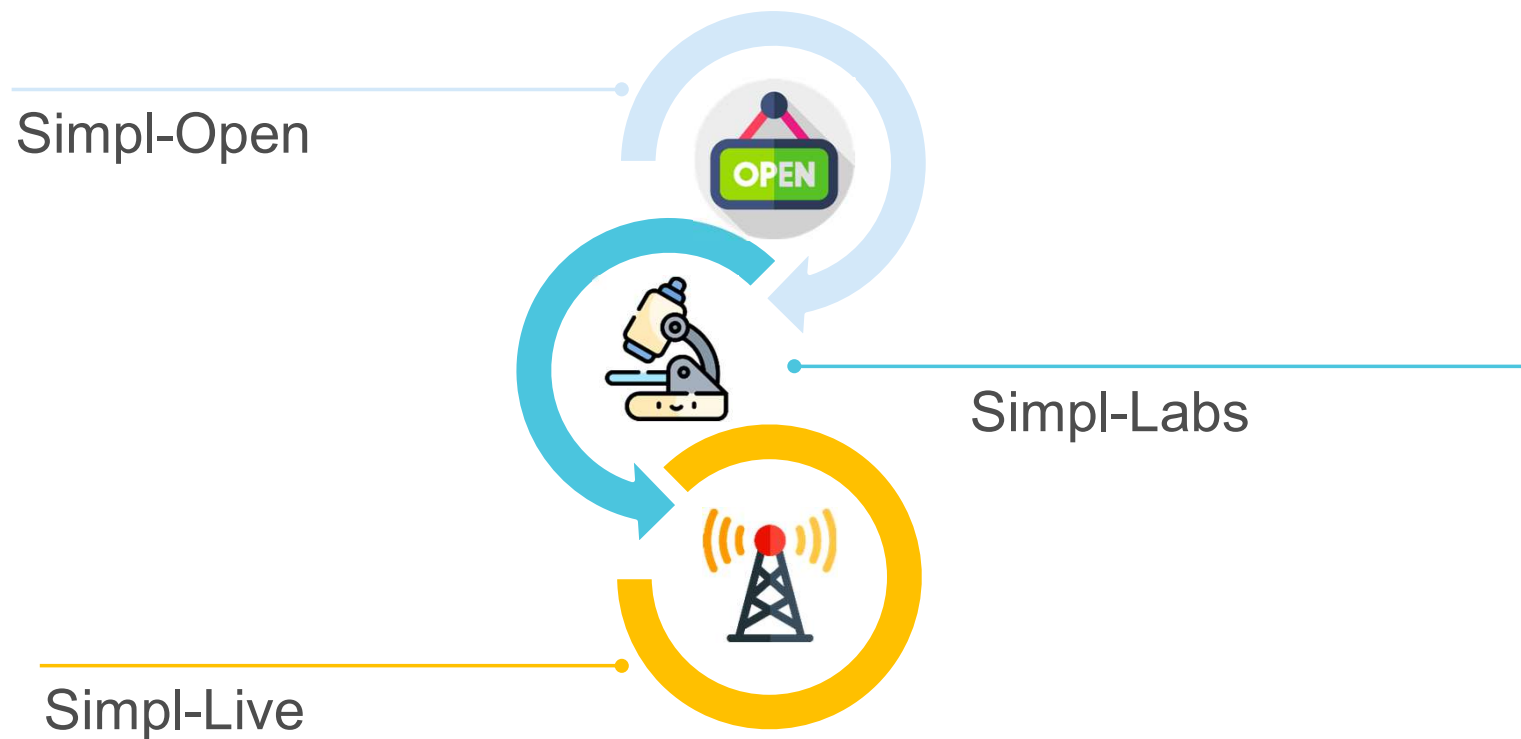
Interoperability

Save money

Save time



Simpl is made of three products



Simpl-Open

Simpl-Open

= the open-source smart middleware
itself

Simpl-Live

Simpl-Labs



Simpl is deployed throughout data spaces

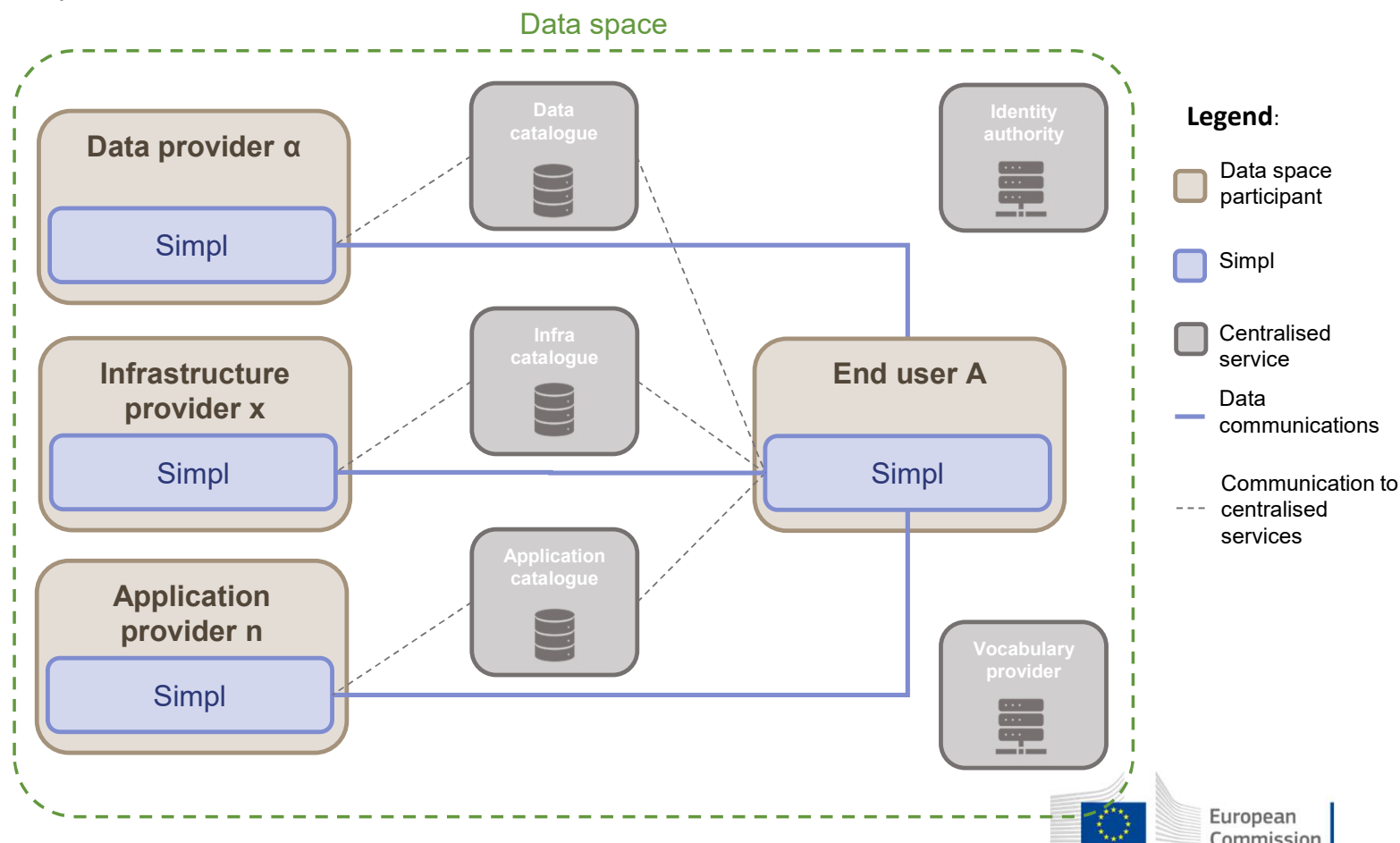
With centralised and decentralised components

- Centralised services = services that provide capabilities through centralised system components.

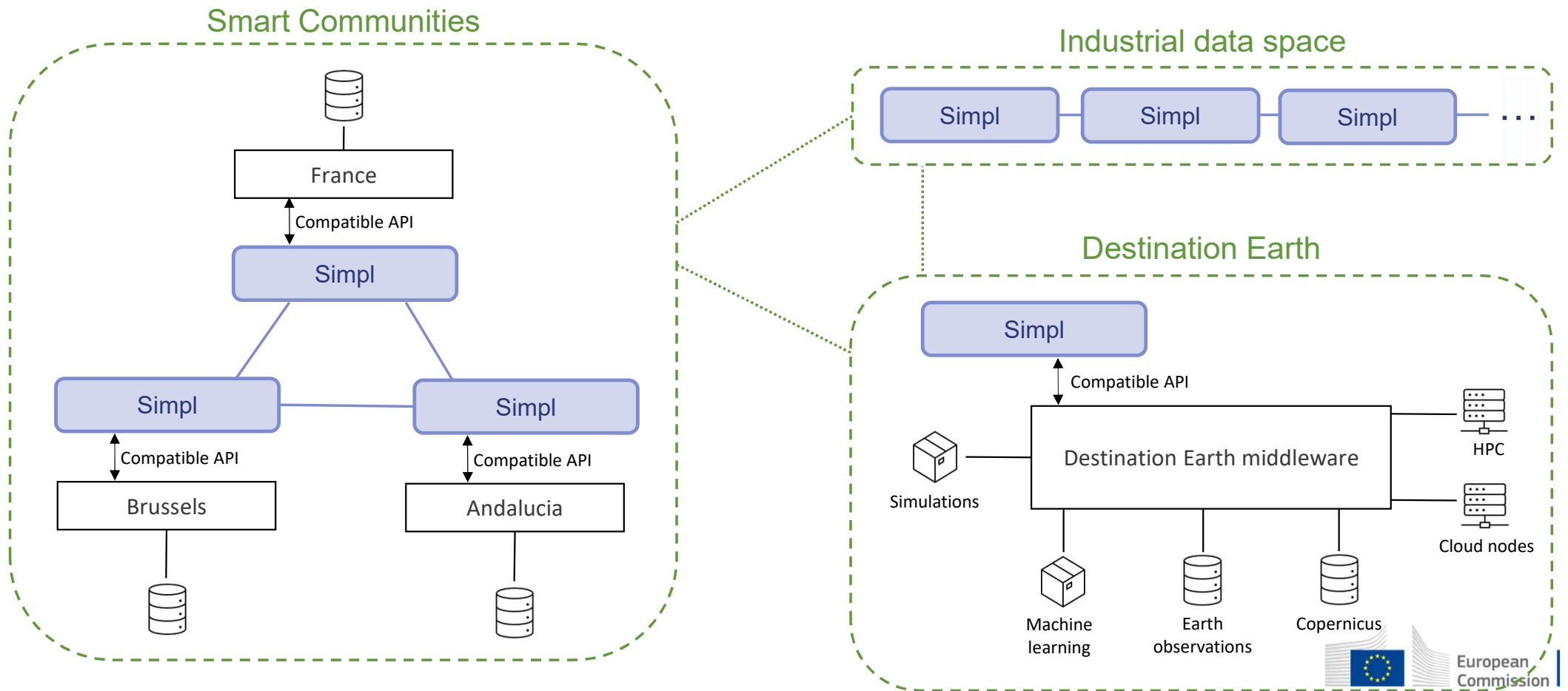
- Data, Infrastructure and application catalogues* provide the cataloging service for end users to discover shared services in the data space

- Vocabulary providers* provide the definition of metadata representation, vocabularies, and ontologies

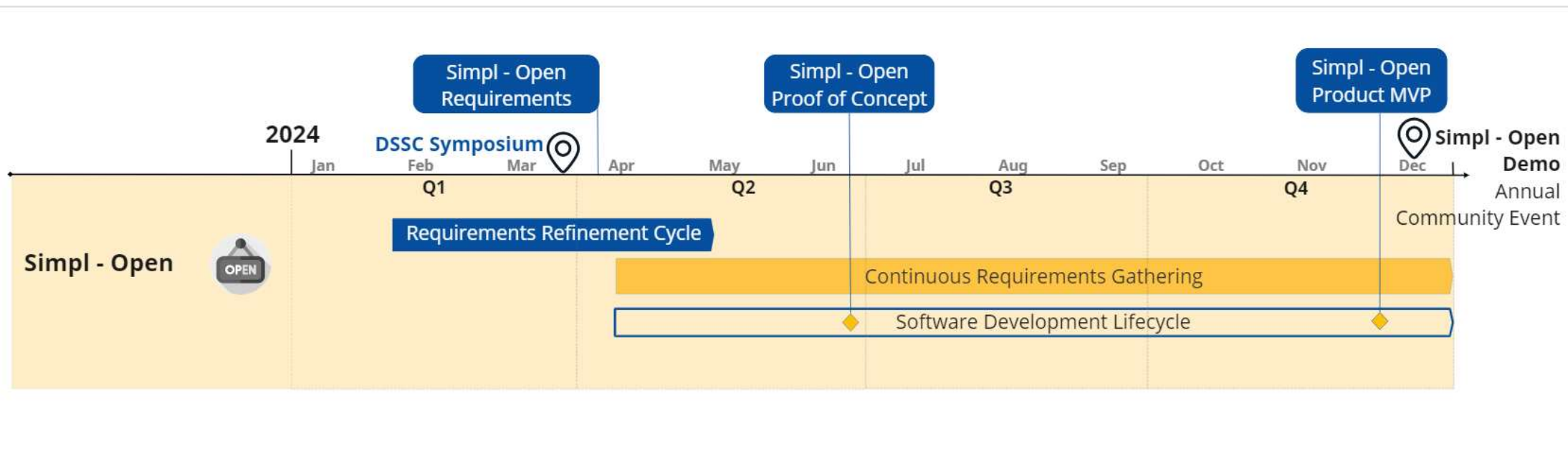
- Identity authorities* manage the identities of the data space participants and provides proofs that other participants can use for authentication and authorization



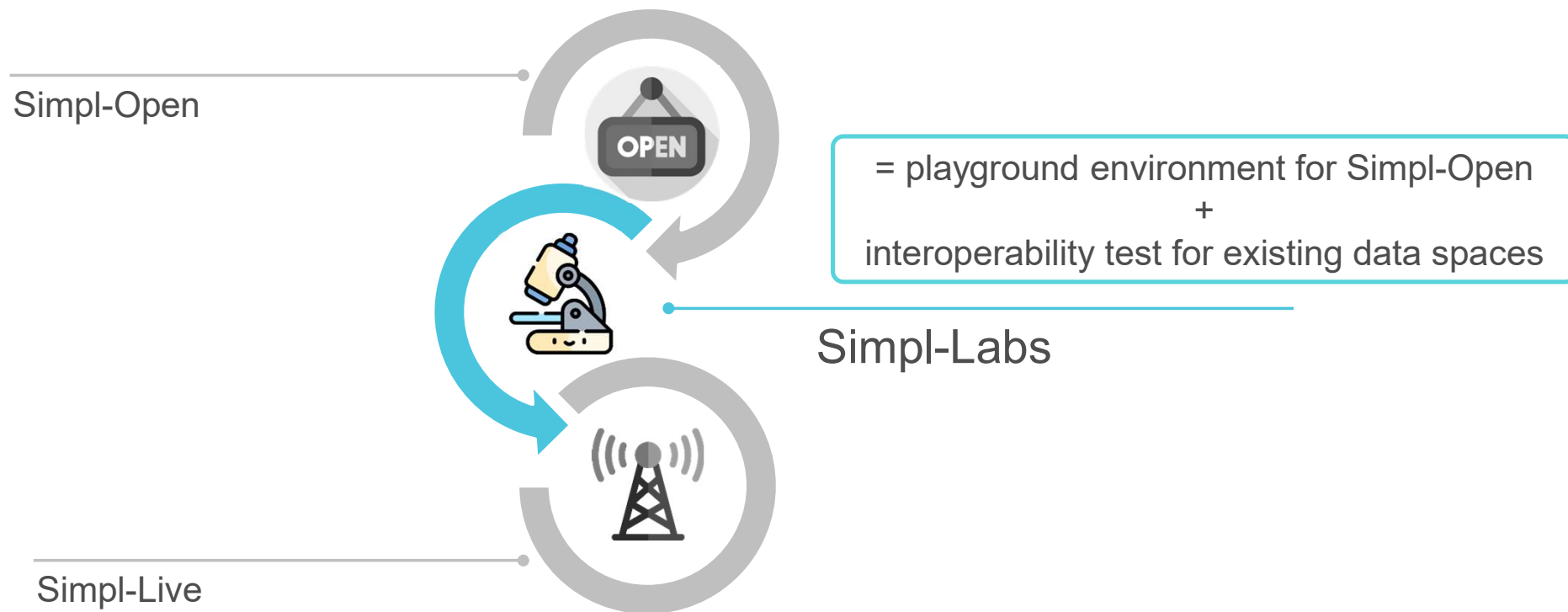
Simpl adjusts to different data spaces and facilitates interoperability



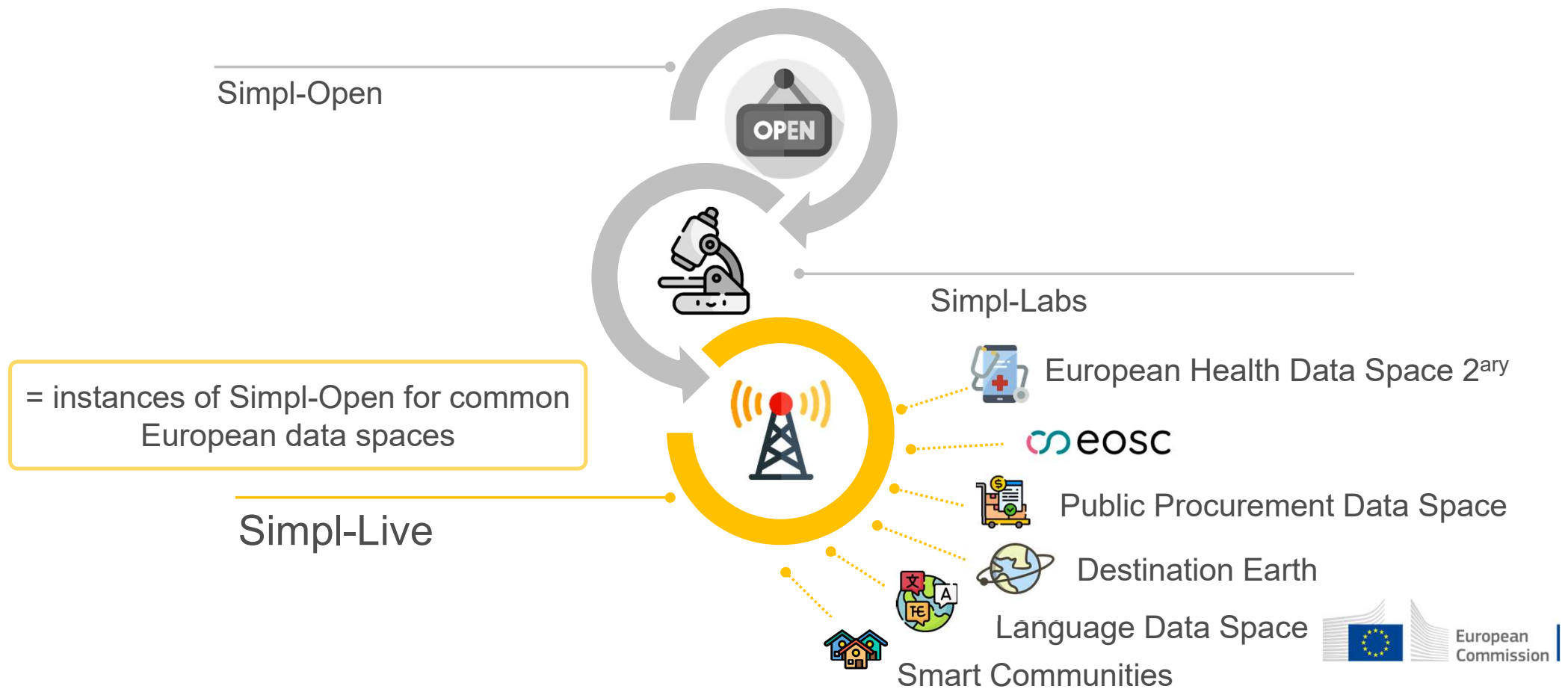
Zoom into 2024 Simpl-Open's development that will last until at least 2026



Simpl-Labs



Simpl-Live





Vragen (nu of later)?

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