

**QUICK SCAN EU VIEWS  
AND ACTIONS ON DATA SHARING INITIATIVES**





## › SUMMARY SLIDE

The EC has realised that it needs an alternative to big tech and non-scalable solutions on data sharing.

The answer by the EC is an integrated package consisting of regulations to create a level playing field and investments to speed up the realisation of federated data spaces.

National and European initiatives have started in this domain with the likes of IDS, Gaia-X, Catena-X, Eclipse, EOSC, Data Space Support Centers and SIMPL.

All these initiatives seem to build up from the same design principles, i.e. data sovereignty and federation of data instead of a centralised model.

SIMPL stands out because it is funded by EC DG CNECT and has the potential to become the de facto standard for data spaces.

It is however not clear yet how the various initiatives stack up. Choices will be made by investors like the EC and national governments, service providers and the market at large that will shape the final outcome towards interoperability.

For sectoral and national initiatives in the data space domain it is therefore highly relevant to understand the direction, to be in touch with the likely winner(s) and to insert ideas and solutions where relevant.

In the meantime, further activities on organisational, legal and semantic interoperability are no regret investments. Investments in technology need to be tightly managed in this dynamic standardisation environment.

## › DISCLOSURE ON RELEVANT TNO ACTIVITIES

- › TNO has a Board position in IDS, Gaia-X, the BDVA and functions as the appointed hub for The Netherlands for Gaia-X and IDS. IDS, Gaia-X and BDVA work closely together in the Dataspace Business Alliance (DBA).
- › TNO has been co-author of various relevant reports including in the architecture framework of IDS, the report by OPEN DEI Design Principles of Dataspaces and is member of various working groups in these international endeavours.
- › TNO is member of the NL AIC, chairs the working group Data Sharing and executes work funded by the Min of EZK. IDS is used as the basic architecture in this work.
- › TNO works closely together with the Data Sharing Coalition, Health RI, SCSN and other sectoral initiatives.
- › TNO has won with partners relevant Digital Europe and Horizon Europe calls, notably the CSA call Data Spaces, CSA Mobility Data Space and CSA Skills Data Space. The activities are starting up.
- › TNO closely collaborates in formulating the FEDeRATED Vision, Master Plan, and Architecture. Furthermore TNO supports the Dutch Customs Administration in the implementation of the Basic Data Infrastructure by developing BDI nodes and integrating these with data holders.
- › TNO is co-author of the Digital Transport Strategy
- › TNO is R&D partner in the NGF DIL program
- › TNO is an active member of the ETP ALICE for formulating research topics to EU programs (like Horizon Europe) in supply and logistics (since the start of ETP ALICE)

## › DISCLOSURE ON TNO POSITION

TNO follows or is active in applied research with regards to mentioned initiatives (like IDS, Simpl, FEDeRATED, and GAIA-X) and technologies (like semantic technology, blockchain). TNO stimulates further research with universities (students, PhD positions, etc.), develops prototypes for validation in practice (Technology Readiness Level 6), supports organizations in implementation of data sharing (such as the Dutch Customs Administration or the Smart Connected Supplier Network), and advises ministries and the European Commission with respect to policy development

TNO position: European and member state initiatives such as Simpl and Gaia-X are of importance for Dutch organisations and initiatives related to data spaces. We are in close contact with ministries in The Netherlands to build a stronger backbone and supporting organisation to assist data spaces initiatives in the link with the EU rather than the fragmented approach there is now. These talks with the ministries have not been finalised. In the spirit of full transparency and to understand TNO's position, we would like to stress this point at the start of the assignment as they might be of relevance going forward.

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# PHASE ONE SCOPE AND DELIVERABLES

Based on TNO expertise and desk research, this presentation provides an overview of European developments with regards to data sharing initiatives and the relevance for The Netherlands.

Deliverables in this presentation include:

- Background and ambition of the EC
- Overview of the major EC initiated initiatives.
- Key parameters of these initiatives: status, approach and characteristics
- Relevance and risks for Dutch data sharing projects.
- Conclusions and recommendations for further action
- Proposed actions phase 2

The presentation is the end-result of phase 1 of the quick scan commissioned by Stichting Connekt to TNO.

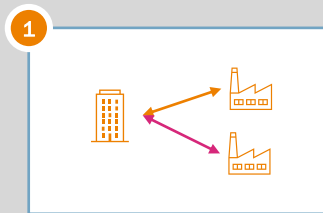
The first phase will be followed by i. the validation through interviews with key stakeholders and ii. an in-depth check on the various initiatives such as SIMPL, Gaia-X, FEDaRATED, EOSC, Eclipse and IDS.

# DATA SHARING MODELS

## THE SCOPE OF THIS QUICK SCAN IS FEDERATED DATA SPACES

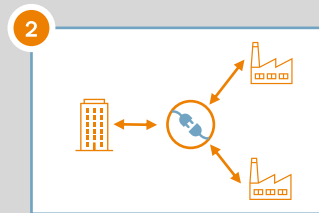
### 3 AI data sharing models

Simplified



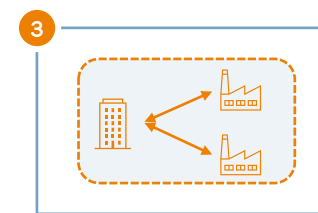
Bilateral data sharing

A **Bilateral** model is an agreement between 2 organisations to share data with one another. Rules and requirements are set up bilaterally between involved parties.



Data sharing platform

In a **platform** model, all parties need to connect to the same platform, which is often provided by competing commercial companies. The platform sets the rules and requirements for data sharing. The governance is also centrally organised by one commercial party.



Federated data space

A **federated** model creates a common (standardised) set of agreements / guidelines that ensures interoperability. The governance is decentral organised by multiple stakeholders.

# › MOTIVATION EU FOR DIGITAL SOVEREIGNTY

## US DOMINANCE AND TECH HAS GROWN OVER TIME

Top 10 corporates in market capitalisation						
1997				2022		
1	GE		Conglomerate	Apple		Tech
2	Shell	NL	Oil and Gas	Microsoft		Tech
3	Microsoft		Tech	Alphabet		Tech
4	ExxonMobil		Oil and Gas	Amazon		Consumer/tech
5	Coca Cola		Beverage	Tesla		Automotive/tech
6	Intel		Tech	Berkshire		Investment
7	NTT	Japan	Telecommunications	United Health		Health
8	Merck		Health	J&J		Health
9	Toyota	Japan	Automotive	Tencent	China	Tech
10	Novartis	Switzerland	Health	Meta		Tech

Other relevant topics mentioned frequently:

- The platform concept is built on “winner takes all” with monopolistic tendencies leading to vendor lock-in and unfair pricing.
- Risk of the surveillance society with data held by few. Examples google, Facebook, Chinese social rating practices.
- There are risks for our society at large: Example Cambridge Analytica built on Facebook data.
- It is not only “defense”. There are significant opportunities with the EU digital sovereignty approach.

## VOICES OF THE EU

# EC WANTS TO REGAIN INITIATIVE BY REGULATIONS&INVESTMENTS



*We will develop a legislative framework and **operating standards** for European data spaces. These will allow businesses, governments and researchers to store their data and access trusted data shared by others.*

*Ursula Von der Leyen, 19 Feb 2020*



*We are defining today a truly European approach to data sharing. Our new regulation will enable trust and facilitate the flow of data across sectors and Member States while putting all those who generate data in the driving seat. With the ever-growing role of industrial data in our economy, Europe needs an open yet sovereign Single Market for data. **Flanked by the right investments and key infrastructures**, our regulation will help Europe become the world's number one data continent.”*

*Thierry Breton, 25 November 2020*



## ..... JUST A VERY RECENT EXAMPLE OF THE EU POSITION

### NRC 05-09 INTERVIEW WITH NEMITZ, HEAD ADVISOR TO THE EC



**‘Moeten we ons  
neerleggen bij  
de heerschappij  
van Big Tech?’**

PAUL NEMITZ PLEIT VOOR DIGITALE SOEVEREINITEIT  
PAGINA C8-9

„De bedrijven proberen ook allemaal actief te worden in de gezondheidszorg. Google is de grootste verzamelaar van gezondheidsdata ter wereld. Met hun technologie kunnen ze zeker grote verbeteringen in de zorgsector tot stand brengen. Maar door hun omvang maken ze het andere bedrijven moeilijk om op dat terrein ook winstgevend te zijn. En willen we echt dat essentiële publieke diensten, zoals gezondheidszorg, straks alleen nog maar geleverd kunnen worden door de reuzen uit Silicon Valley?”

Zodat die regulering in twee opzichten bijdraagt aan onze digitale soevereiniteit: dat de bevolking haar democratische rechten kan uitoefenen, en dat we onze afhankelijkheid van anderen minder groot maken.

## › BASIC CHALLENGES TO OVERCOME VENDOR LOCK-IN

- Data Interoperability – data sharing between organizations to stimulate innovation, including the development of AI applications
- Data Portability – the ability of organizations to port their data from one (Cloud) Service Provider to another
- Process (configuration) Portability – the ability of organizations to port their process from one (Cloud) Service Provider to another

Data – and Process Portability are similar developments as seen in other sectors, for instance finance, energy, and Internet.

Data Interoperability is the basis for federation; it requires roaming like developed for the mobile telephone network.

# › ACTIONS BY THE EC ON GENERIC DATA SHARING

## SECOND TITLE OF THE SLIDE

Over time, we see a build up from strategy formulation and regulation, to supporting national/sectoral initiatives, to the regular Coordination and Support Actions to an activist procurement activity with SIMPL.

SIMPL is a EC funded middleware development suggesting that the EC deems that the market and individual sectors cannot organize themselves to scale and ensure interoperability between sectors.





## › THE EC DATA STRATEGY AS FORMULATED IN 2020

“To further ensure the EU’s leadership in the global data economy the European strategy for data intends to:

- adopt legislative measures on data governance, access and reuse. For example, for business-to-government data sharing for the public interest;
- make data more widely available by opening up high-value publicly held datasets across the EU and allowing their reuse for free;
- invest €2 billion in a European High Impact Project to develop data processing infrastructures, data sharing tools, architectures and governance mechanisms for thriving data sharing and to federate energy-efficient and trustworthy cloud infrastructures and related services;
- enable access to secure, fair and competitive cloud services by facilitating the set-up of a procurement marketplace for data processing services and creating clarity about the applicable regulatory framework on cloud framework of rules on cloud”

Source: [A European Strategy for data | Shaping Europe’s digital future \(europa.eu\)](#)

## OVERVIEW OF MAJOR EU DATA SHARING INITIATIVES:

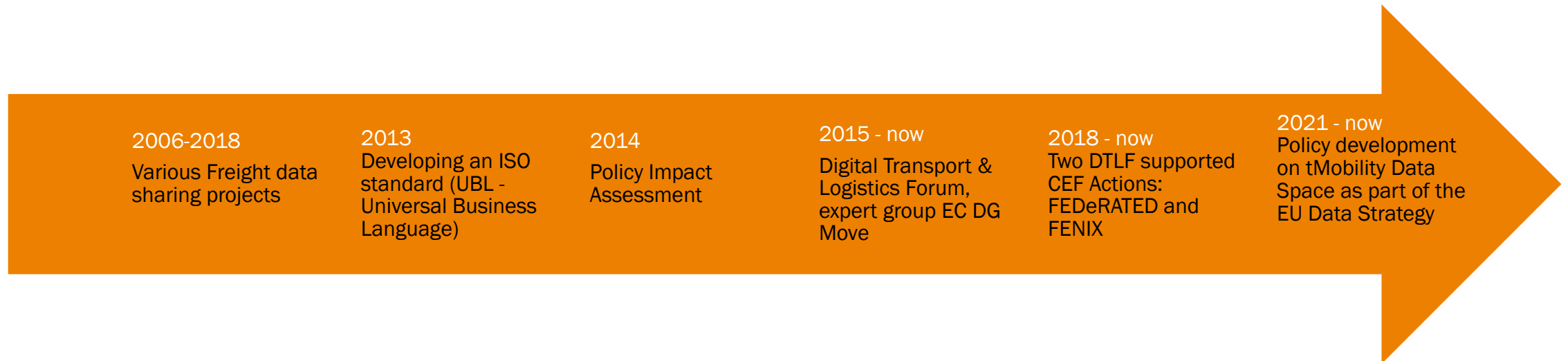
Initiative	Status	Approach	Characteristics
FEDeRATED	Operational on small scale	Use case sectoral driven	Combination of semantic and data sharing
IDSA	Operational but R&D still on going	Reference architecture and standardisation. DIN-SPEC 27070	Based on verifiable trust, community driven API's and governance model guidelines.
EOSC	Operational on small scale	Research driven	Focus on Fair digital objects and data stewardship
EDC	Demonstration available for Catena-X (automotive)	Focus on technical interoperability	Software suite. Not bound to specific protocol or data model.
Gaia-X	Some components available w. GXFS	Federation of IT services and infrastructure.	Includes cloud federation and self-sovereignty/descriptions
Digital Europe Data Spaces	Calls awarded, work starting	Coordination and support actions	Building and creating data spaces in EU through calls
SIMPL	Announced	Realisation of unified Smart Middleware Platforms for each country	Supports EU Data Spaces, EOSC, AI4EU and Destination Earth

# › ACTIONS BY THE EC ON DATA SHARING IN FREIGHT

## EC DG MOVE

Over time, we see a build up from various projects and initiatives via various EU funded Research Programs (like FP5, 6, 7, and 9 and Horizon2020, for instance eFreight, Cassandra, CORE).

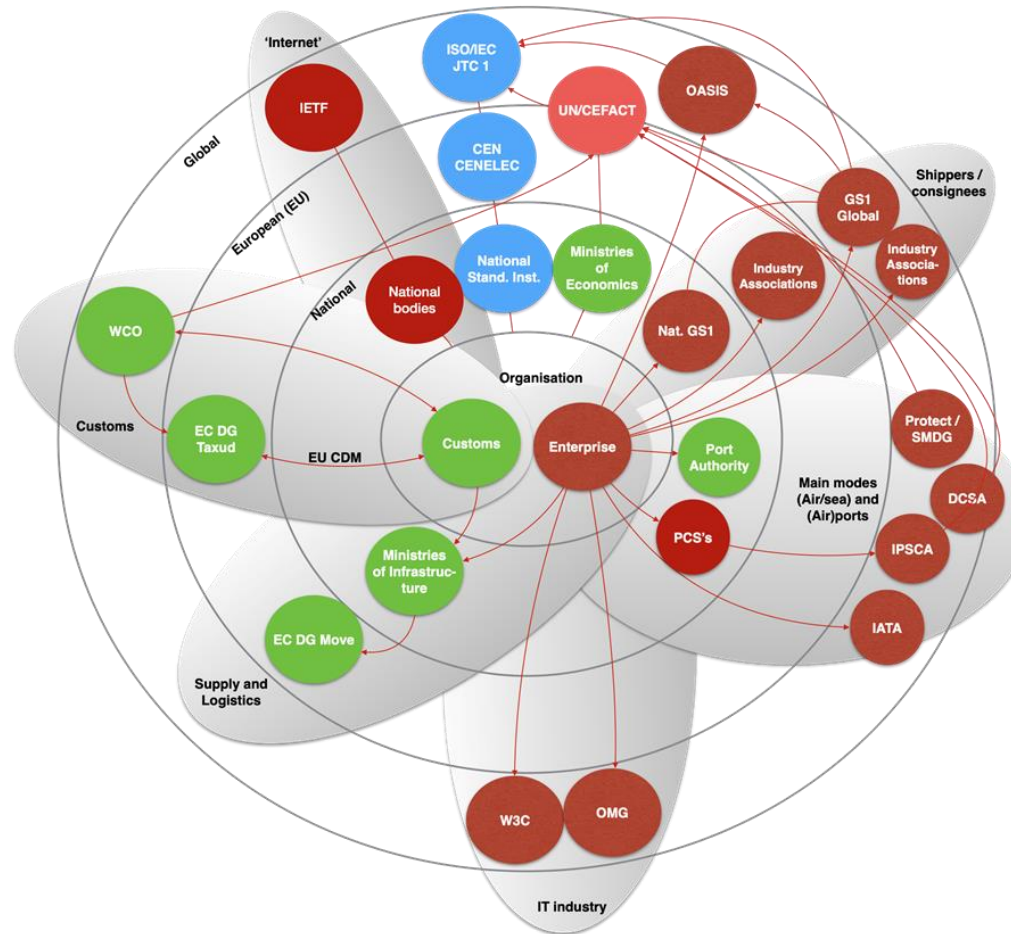
The EU Transport Strategy (2011) formulated the objective to create open and neutral data sharing for all supply and logistics stakeholders (level playing field)



In parallel, Germany (Fraunhofer) has launched separate initiatives, for instance the Open Logistics Foundation

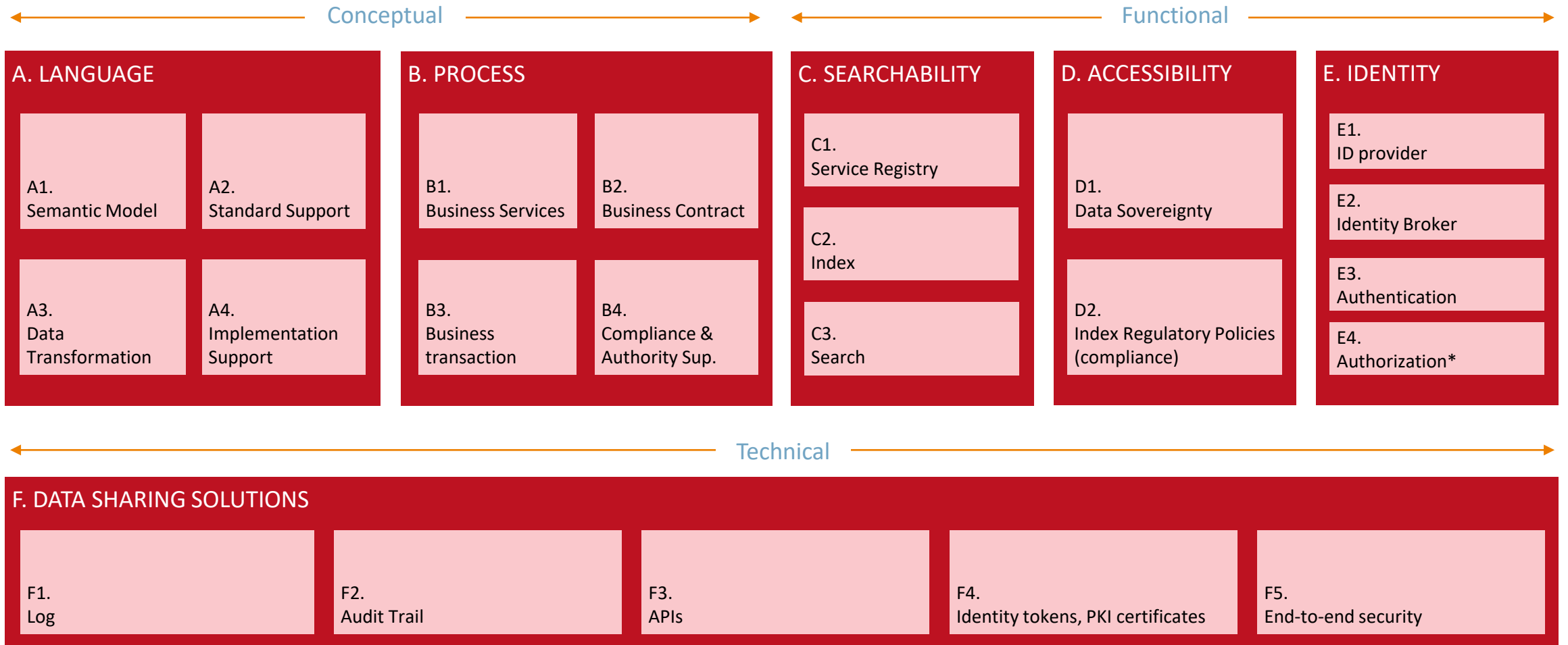


# STANDARDISATION PLAYS A KEY ROLE LANDSCAPE PICTURE RELEVANT FOR MOBILITY DATA SPACE



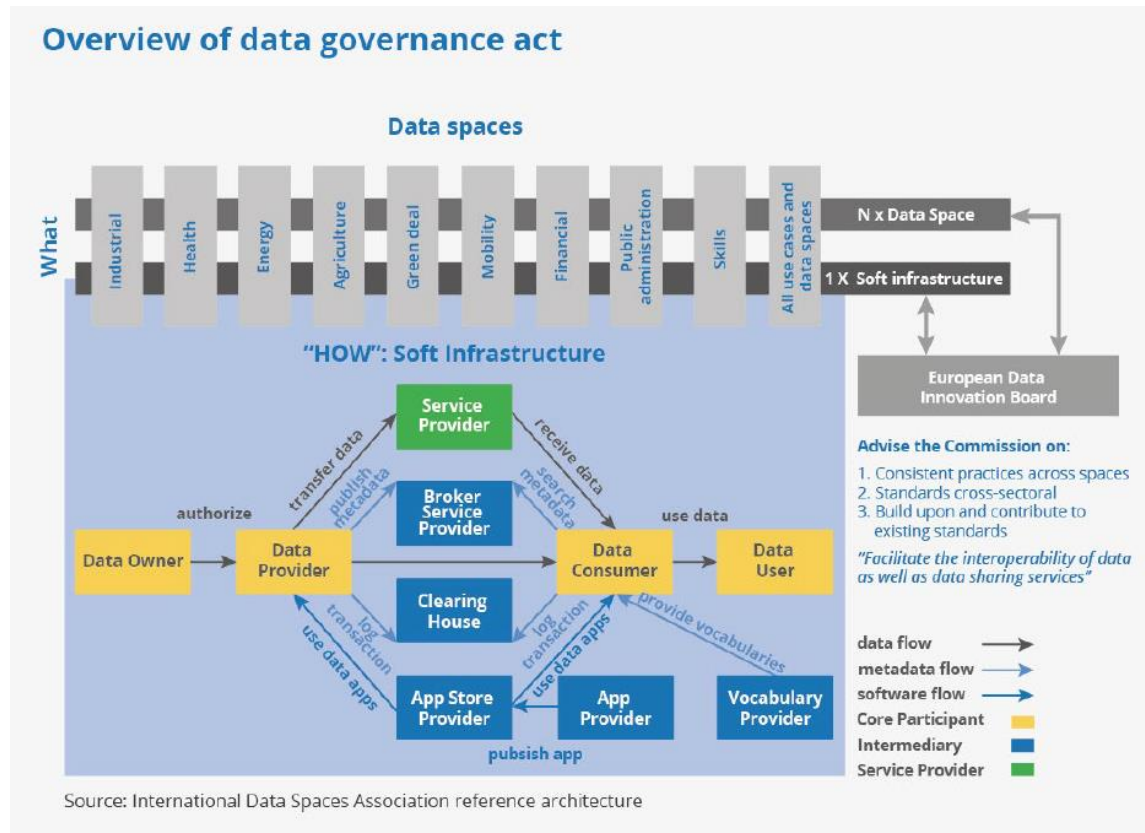
# FUNCTIONAL BUILDING BLOCKS DTLF AND BDI/DIL

## SOME FUNCTIONALITY BUILT IN; OTHERS ORCHESTRATION ONLY



# THE OPENDEI MODEL OF DATA SPACES AS THE FOUNDATION

End of 2020, the EC tasked the OPEN DEI project and IDS to detail the concept of data spaces. The picture that emerged is foundational to the next steps. Sectoral data spaces are made interoperable through an agreed architecture and open source connectors.



Source: Design Principles for Data Spaces

Version 1.0, April 2021

[Design Principles for Data Spaces | Position Paper \(design-principles-for-data-spaces.org\)](https://design-principles-for-data-spaces.org)



# INTERNATIONAL DATA SPACES

## THE BIRTH OF IDS, CATENA-X AND GAIA-X

Multi-national corporates (e.g. Siemens, Bosch, VW, BMW) in Germany saw the risk of an erosion of their business if they could not control the flow of data. They consulted Fraunhofer for advise, which resulted in the Industrial Data Spaces, which later changed to International Data Spaces. Other international research organisations such as TNO and VTT joined in further developing the architecture model and use cases such as the Smart Connected Supplier Network in Brainport Eindhoven.

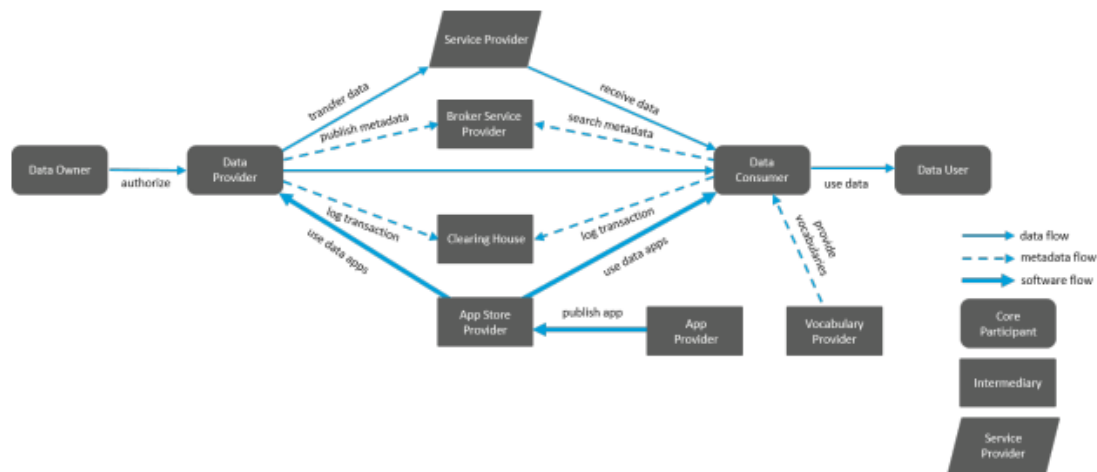


Figure 3.1: Roles and interactions in the Industrial Data Space

Source: IDS RAM version 3.0

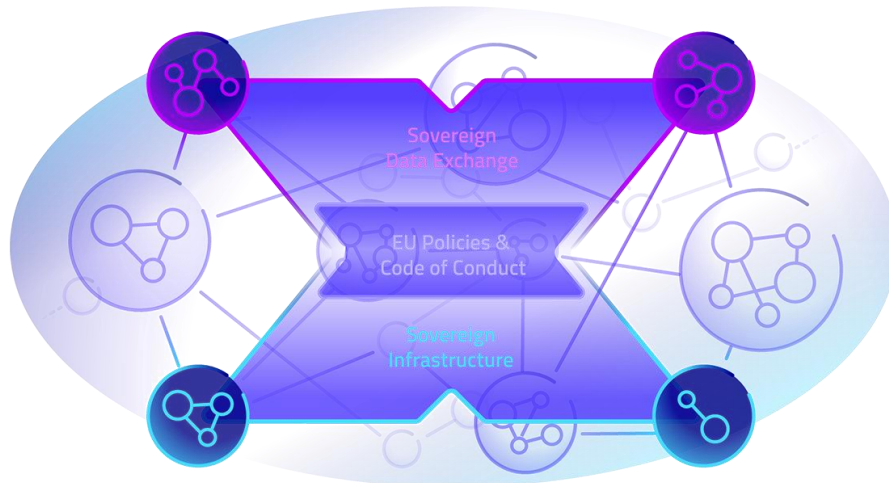
<https://internationaldataspaces.org/publications/ids-ram/>

# ANCHOR GERMANY; THE GAIA-X INITIATIVE

## IDS EXTENDS INTO EUROPEAN AND SECTORAL VENTURES

In parallel, Germany took the lead to extend the IDS line of thinking and the addition of cloud federation into a European initiative. Built on these came new initiatives such as CATENA-X and the Eclipse Foundation.

BMWi (German Min of EZK) kickstarted Gaia-X with 188 mln for the build of open source Gaia-X Federation Services (GXFS) modules and the build up of use cases. BMWi has first linked up with France, followed by other EU countries including NL. Gaia-X is now a European initiative with hubs in countries like South Korea, Japan and the UK.



GAIA X: [Home - Gaia-X: A Federated Secure Data Infrastructure](#)

GAIA X Federation Services DE: [Gaia-X Federation Services - GXFS.eu](#)

# › **DIGITAL EUROPE; CSA CALLS TO ORGANISE DATA SPACES OBJECTIVES**

“Objective: The objective of this action is to set up and operate a Support Centre, which coordinates all relevant actions on sectorial data spaces and makes available (blueprint) architectures and data infrastructure requirements for the data spaces, including possible technologies, processes, standard and tools that will allow reuse of data across sectors by the public sector and European businesses, notably SMEs.

Support the work of the envisaged Data Innovation Board in view of enhancing the interoperability of data as well as data sharing services between different sectors and domains. In particular, it will identify cross-sector standards to be used and developed for data use and cross-sector data sharing, it will carry out cross-sectoral comparisons and identify best practices with regards to sectoral requirements for security, access procedures, while taking into account sector-specific standardisations activities.”

Source: [Funding & tenders \(europa.eu\)](#), Data Spaces Support Centre , TOPIC ID: DIGITAL-2021-CLOUD-AI-01-SUPPCENTRE

# › **DIGITAL EUROPE; CSA CALLS TO ORGANISE DATA SPACES SCOPE**

Scope: The creation of the Support Centre will have three main work strands.

1-The first work strand will support the creation of a network of stakeholders

2-The second work strand in collaboration with the network of stakeholders will have the following main tasks:

- Identify the common requirements for data infrastructure across sectoral data spaces (e.g. technical design, functionality, operation and governance, legal and ethical aspects).
- Define the guiding design principles for the creation of data spaces.
- Identify architecture and technical data governance frameworks establishing enabling schemata both at sector or domain level and for cross-sector data use.
- Identify common standards, including semantic standards and interoperability protocols – both domain-specific and crosscutting.
- Identify the potential for synergies between data spaces and coordinate related cross-cutting exchanges between data spaces
- Etc

3-The third strand will aim to create a platform to support the knowledge exchange between all actors in the data economy and provide support for the deployment of the common building blocks necessary for implementation of sectoral common data spaces.

Source: [Funding & tenders \(europa.eu\)](https://european-council.europa.eu/media/en/press-communications/infographic/infographic-digital-europe-2021-01-14-01.pdf), Data Spaces Support Centre , TOPIC ID: DIGITAL-2021-CLOUD-AI-01-SUPPCENTRE

## › EU TAKING AN EVEN MORE ACTIVE ROLE WITH SIMPL



“Simpl is the smart middleware that will enable cloud-to-edge federations and support all major data initiatives funded by the European Commission,.

Anchored to specific use cases, covering a broad range of cases from sectoral data spaces, to Destination Earth, and from AI-on-demand to the European Open Science Cloud.

Simpl will ensure that data sets and their infrastructures can be seamlessly interconnected and made interoperable.

Smart and modular, to allow the replacement or addition of components without affecting the rest of the system.

Open source, allowing insights into all parts of the architecture (without any proprietary claims) and simple deployment.

Green, scalable and elastic, by allowing a monitoring of its environmental performance, and the addition of new users without affecting performance.

Secure and interoperable, where trust, confidence and compliance with regulations are built into the system. This implies an effortless sharing of resources between participants, regardless of their data processing environment. It creates an abstraction layer that enables data to flow across multiple providers and Member States.”

Source: <https://digital-strategy.ec.europa.eu/en/news/simpl-cloud-edge-federations-and-data-spaces-made-simple>



## › EUROPEAN OPEN SCIENCE CLOUD

### SIMPL SUPPORTS DATA SPACES, DESTINATION EARTH, AI AND EOSC

“The ambition of the European Open Science Cloud (EOSC) is to provide European researchers, innovators, companies and citizens with a federated and open multi-disciplinary environment where they can publish, find and reuse data, tools and services for research, innovation and educational purposes.

The EOSC enables a step change across scientific communities and research infrastructures towards

- seamless access
- [FAIR](#) (Findability, Accessibility, Interoperability and Reusability) management
- reliable reuse of research data and all other digital objects produced along the research life cycle (e.g. methods, software and publications)

In the initial phase of implementation (2018-2020), the European Commission invested around €250 million to prototype components of the EOSC through calls for projects under Horizon 2020.

A co-investment (with in kind and financial contributions) by the EU and non-EU partners of at least €1 billion is foreseen for the next 7 years.”

# SYSTEM ARCHITECTURE SIMPL ON DATA SPACE LEVEL

NOTE THE 3 LEVELS OF DATA, INFRA AND APPLICATION

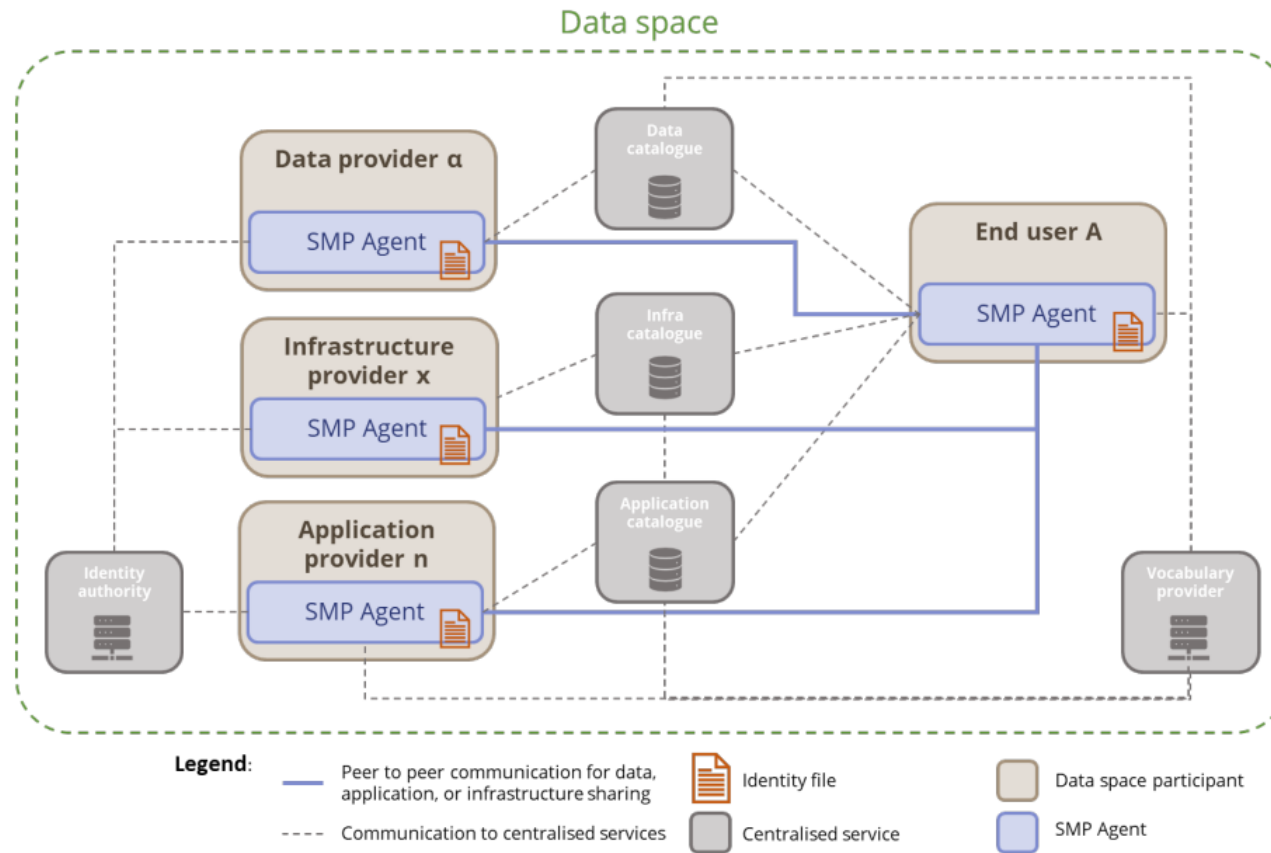


Figure 10. An overview on the system architecture of the Smart Middleware Platform

# SYSTEM ARCHITECTURE SIMPL OVER DATA SPACES

## INTEROPERABILITY BETWEEN DATA SPACES, DESTINATION EARTH, AI AND EOSC

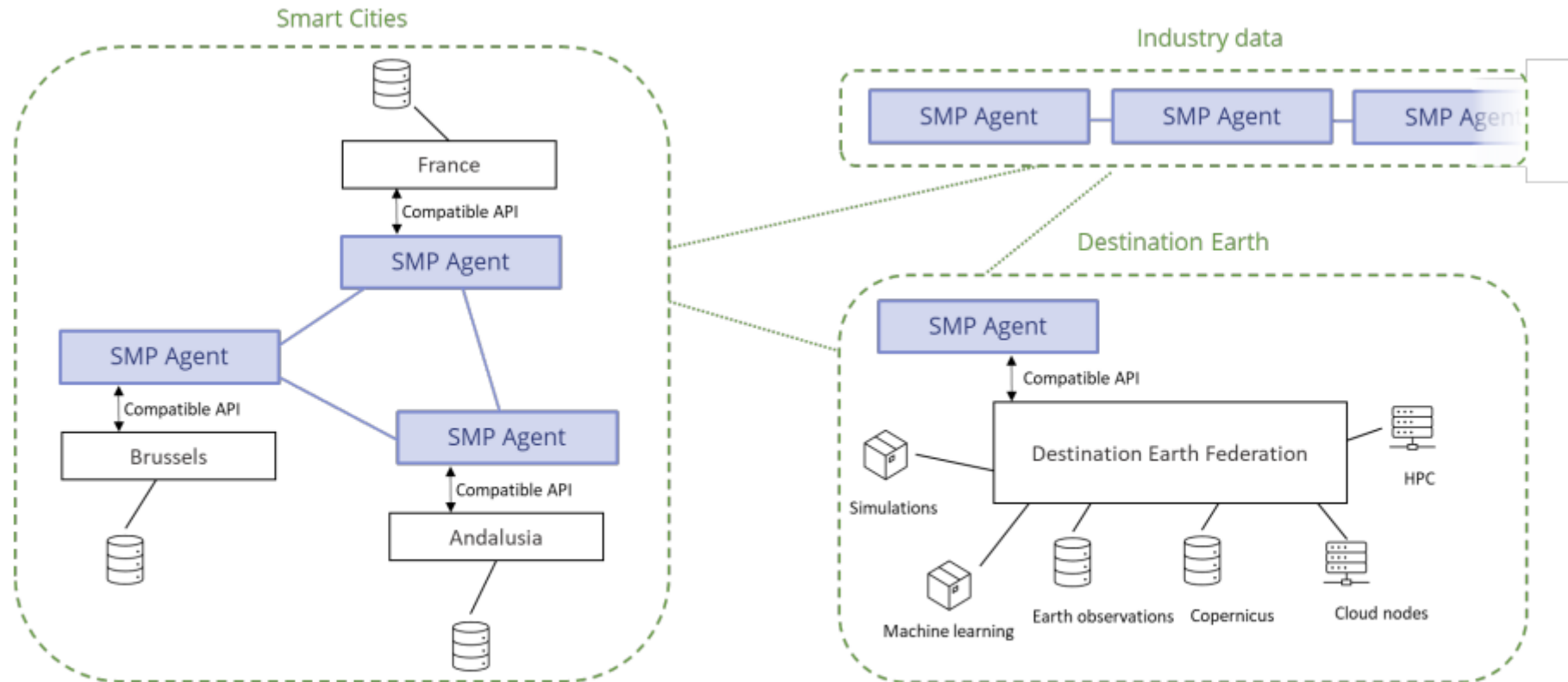


Figure 3: SMP agent deployed and connected over multiple data spaces

# FUNCTIONAL BUILDING BLOCKS

SOME FUNCTIONALITY BUILT IN; OTHERS ORCHESTRATION ONLY

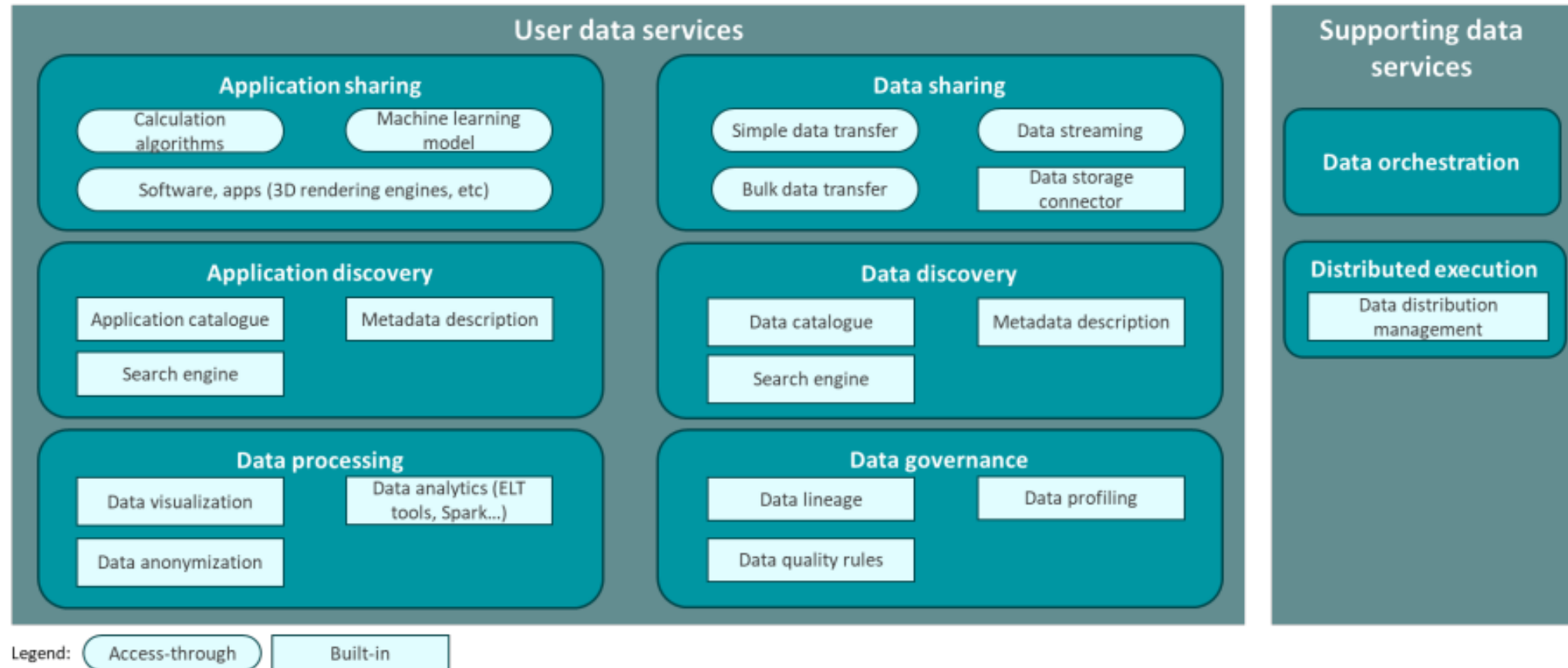


Figure 6. High-level view on the data layer building blocks

## › **EC ROLE IN SIMPL**

### **AS QUOTED FROM SIMPL WEBSITE:**

“Simpl is funded through the DIGITAL Work Programme receiving €65 million from 2021-2022.

The European Commission's role is to:

- Be the Contracting Authority procuring Simpl.
- Make Simpl freely available and open source for the benefit of the public & private sectors and the European citizens.
- Deploy its own instances of Simpl as an active stakeholder of forthcoming data spaces.
- Be the main operator of some public sector-specific data spaces.
- Make available open testing environments for stakeholders to try out Simpl before deployment, in addition to its own participation in data spaces (a Simpl sandbox).”

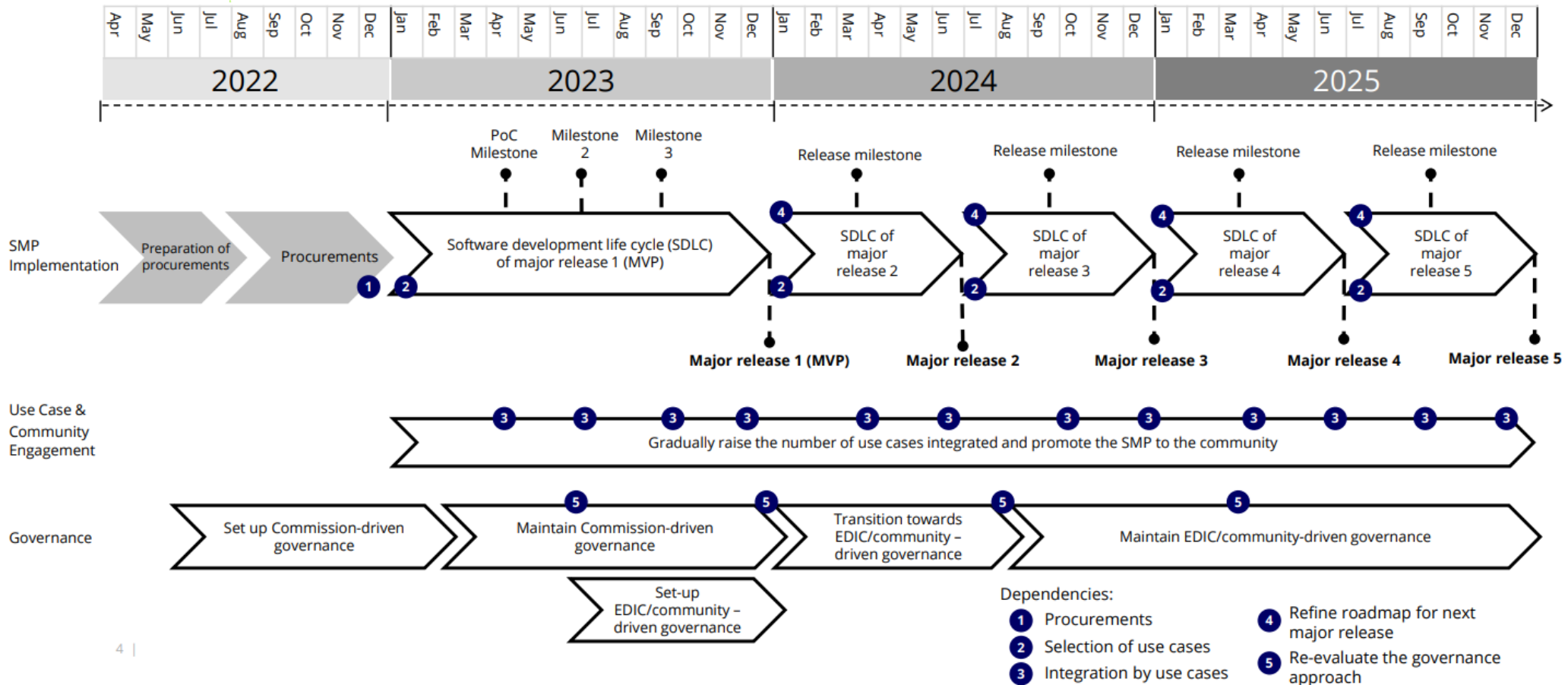


# PROCESS SLIDE IN SIMPL GOVERNANCE MODEL

NOTE THE 2023 MVP DEADLINE. SECONDLY, CONTROL OVER TIME CHANGES

## High-level implementation roadmap with dependencies

Dependencies related to the different SMP releases & use case & community engagement



## › SOME OBVIOUS QUESTIONS

- › How do these initiatives stack up?
- › How will the Mobility Data Space with input of DTLF/FEDeRATED fit into the generic data space approach (research question of the CSA Mobility Data Space)
- › How will Simpl and Data Space Support Centers work in parallel?
- › Simpl: Risk of overreach?
- › The importance of semantics is emerging in various initiatives (IDS, GAIA-X), not yet in Data Spaces and not clear in Simpl
- › Are the technologies building upon different technical paradigms (e.g. APIs versus semantic technology)? The major IT players (Apple, Google, Amazon, Meta, Ali Baba) are recognizing the importance of semantics; new initiatives are coming from for instance Ericsson and IKEA. The Ericsson initiative led to IATA One Record.

From the Simpl website: “*There are many third-party initiatives working in this area and that we follow ourselves with great interest such as [Gaia-X](#), the [International Data Space Association](#), and the [Eclipse Foundation](#), to name a few.*”

Conclusion: SIMPL has the other initiatives in sight. However many questions, but no real answers in the first call. There is as of yet limited visibility on where exactly this will lead and if the EC projects interdependencies are managed. Secondly, there seems to be unclarity on foundational choices between API and semantic web technology which is gaining momentum.

## › RISK: SIMILAR DEVELOPMENTS MAY REACH DIFFERENT OUTCOMES

From the design principles, all initiatives are pretty much aiming for the same. Data sovereignty, federation, open source. Seems like a linear/parallel direction with the same design principles, but the devil is in the detail.

Eclipse starts with the IDS connector but leaves more freedom for other solutions.

Simpl includes applications and infra

FEDeRATED and EOSC include semantics

Gaia-X internal discussions between Gaia-X DE and Gaia-X FR

**Conclusion: Even though there is consensus over the general direction with the concept of federated data spaces, the way this will play out is unclear which imposes risks on initiatives that depend on the outcome.**

# RELEVANCE AND RISKS OF THE EU INITIATIVES

## SECOND TITLE OF THE SLIDE

Likely scenario: NL Data spaces will “meet” the EU driven data spaces at one point. Internationally adopted standards (either formally or through the de-facto acceptance by the masses) will be the winners.

Opportunity of early engagement: supporting NL organisations with lower costs/new business models, first mover advantage in further digitization. Downside: requires active engagement, risk of betting on the wrong horse

Opportunity of late engagement simplicity of execution. Downside: risk of extra costs in technical adaptations and loss of opportunities.

Risk	High/medium/low	Mitigation
Under-engagement with EU developments	High	<ol style="list-style-type: none"><li>1. Build a mechanism by which EU developments are known and built in.</li><li>2. Engage with key players and stay in touch.</li></ol>
Over-engagement	Medium	<ol style="list-style-type: none"><li>1. Assess the real concrete and significant from the hype of the day.</li><li>2. Senior architectural perspective on developments. Not an operational/tactical change board responsibility.</li></ol>

# EUROPEAN INTEROPERABILITY FRAMEWORK PERSPECTIVE

## FULL CONTINUATION FIRST 3 LAYERS; ASSUME CHANGE ON THE 4TH

### Legal

- No regret action to understand the regulatory boundaries and the legal agreements needed between the parties.
- This action is time consuming as it involves various disciplines such as legal and business and requires alignment between organisations.

### Organisational

- Business cases and use cases will continue to be valuable no matter the choices made.
- Governance needs to be set up to make the system work.
- This action is time consuming as it requires a good understanding of the potential business value in a collaborative effort.

### Semantic

- No regret action to further define the semantic layers of data and processes.
- This action is time consuming as it requires deep know how of the sector and implementation across partners.

### Technical

- Here is where most discussions are taking place at the moment.
- Assume that there will be changes and hence adaptability and balanced investment decisions are needed.



# › CONCLUSIONS AND RECOMMENDATIONS

## SECOND TITLE OF THE SLIDE

### Conclusions:

- The EC and DG Connect have invested significant political and financial capital in an active approach to standardization, regulation and implementation and is therefore a crucial stakeholder in the further development of data spaces.
- Even though there is consensus over the general direction, the way this will play out is unclear which imposes risks on initiatives that depend on the outcome.

### Actions:

- Engagement with DG Connect/Data Space Support Centers because of SIMPL and thought leadership on generic level in EU
- Determine impact including the semantics on FEDeRATED if Gaia-X, Eclipse, other developments and/or SIMPL become de facto standards (fase 2 of the proposal)
- Participate in or ensure national coordination on generic level to have a steady upstream downstream interaction with EU
- Shield off tactical/operational project management from these developments. Clear guidance and careful change management is needed to keep moving but be flexible enough to change with relevant developments.

## › PROPOSED ACTIONS PHASE 2 VALIDATION

- › Interviews with 2 individuals from DG CNECT, Donahue, Chastanet, Wijsmuller. Background and plans wrt SIMPL. Relationship with CSA Data Spaces, Gaia-X and sectoral initiatives such as FEDeRATED
- › Interview with DG Move on link with general developments SIMPL and CSA and perspective FEDeRATED, CSA Data Spaces
- › Interview with Prof Dr Boris Otto - Fraunhofer, Gaia-X, IDS, Eclipse, German position
- › Depending on insights, position of French and/or other large EU country perspectives.
- › Interview with Henk Jan Vink of TNO
- › Interview TBD regarding NL integral approach to data space links with EU and possible support
- › Interview with Eclipse
- › Interview with Karel Luijben and/or Barend Mons wrt EOSC,

Conclusions and advise following this part of phase 2 will be delivered as an add-on to this presentation.

## › PROPOSED ACTIONS PHASE 2 COMPARISON BETWEEN INITIATIVES

- › Specify which aspects are relevant to distinguish (e.g. maturity, installed based ...)
  - › Interoperability layers (EIF) and OpenDEI Building blocks will be used to cover all functional aspects
- › Define a set of common unified terminology to be able to compare initiatives with similar looking concepts (e.g. participant)
- › Define the scope of initiatives to compare with FEDeRATED (default: IDSA, Gaia-X, Eclipse Dataspace Connector, SIMPL, EOSC)
- › Describe for each initiative the relevant aspects with use of the unified terminology
  - › Based on the description of the relevant aspects the similarities and difference will become clear.
- › The comparison will be presented and discussed.

# › APPENDIX

## › SOURCES

European Strategy: [A European Strategy for data | Shaping Europe's digital future \(europa.eu\)](#)

### SIMPL:

Main website: [Simpl: cloud-to-edge federations and data spaces made simple | Shaping Europe's digital future \(europa.eu\)](#)

Architecture vision: <https://ec.europa.eu/newsroom/dae/redirection/document/86241>

Governance model: <https://ec.europa.eu/newsroom/dae/redirection/document/86239>

Introduction presentation 30 May 2020:



Adobe Acrobat  
Document

### OPEN DEI:

Design Principles for Data Spaces: [Design Principles for Data Spaces | Position Paper \(design-principles-for-data-spaces.org\)](#)

### FEDeRATED:

Main website: [Home \(federatedplatforms.eu\)](#)

Vision: [http://www.federatedplatforms.eu/index.php/library/item/visionreport-milestone1?category\\_id=2](http://www.federatedplatforms.eu/index.php/library/item/visionreport-milestone1?category_id=2)

BDI: [BDI en DIL: een afsprakenstelsel voor event-gedreven coördinatie in de logistiek - Topsector Logistiek](#)



## › SOURCES

Gaia-X, general info: [Home - Gaia-X: A Federated Secure Data Infrastructure](#)

Gaia-X Federation Services (DE), the Germany contribution: [Gaia-X Federation Services - GXFS.eu](#)

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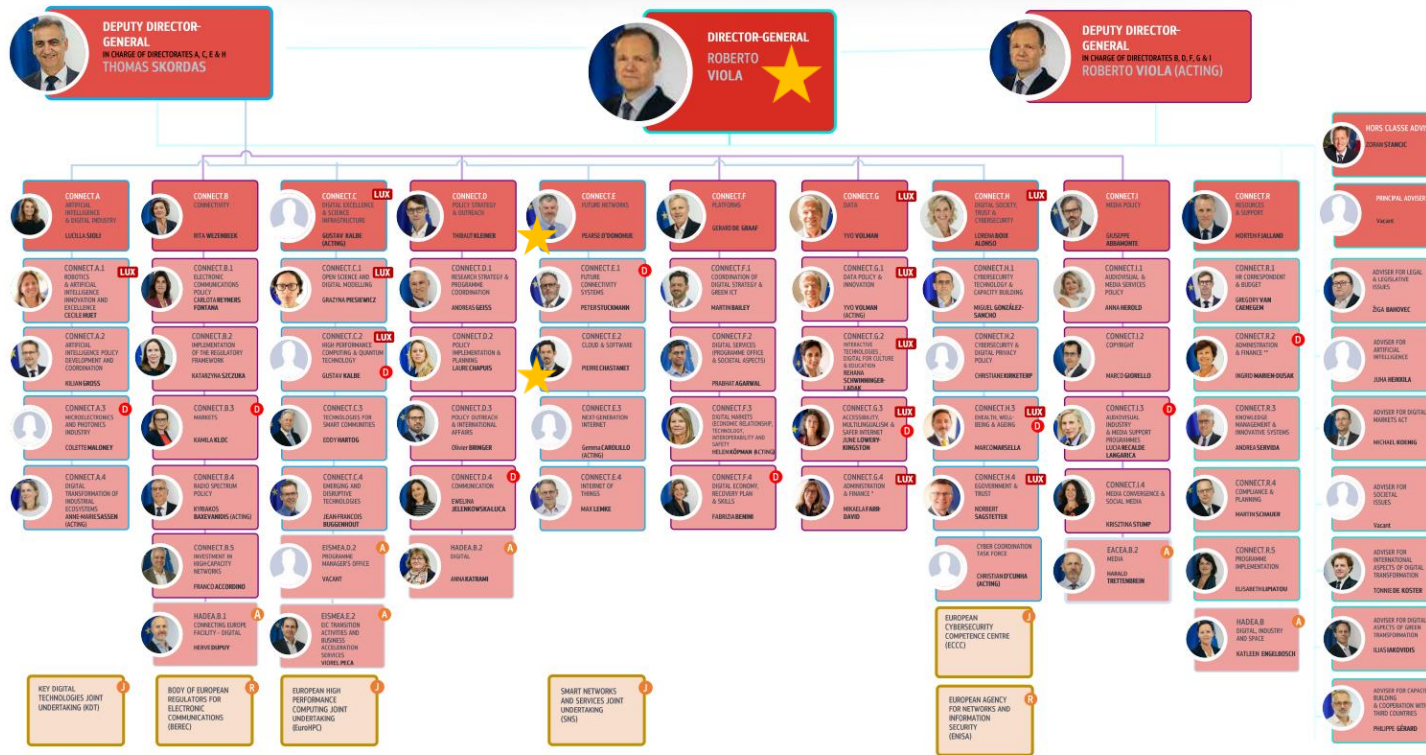
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