



Simpl

Key Stakeholders Workshop

Brussels, 4 July 2024

Welcome & Warm up

Manuel Mateo Goyet

Meet & greet

Name

+

Affiliation

+

Why you
are here

+

The book you are currently reading

or

Something about your summer plan

or

The olympic sport you plan to follow

Agenda - Morning sessions

Session	Speaker	Timeslot
Warm up and Welcome	Manuel Mateo Goyet DG CNECT	9.30
State of Play of the Simpl Programme	Valentina Staveris, Ralf Resch DG CNECT	9.45
Simpl Open: Demonstration of the Proof of Concept Q&A	Dominique Roelants, DG CNECT Saulo Sini, Nicolas Auricchio, Sovereign-X	10.30
Coffee break		11.00
Simpl-Labs Q&A	Ana Juan Ferrer, Lucian Onisei, DG CNECT Federico Paparoni, Stefano Bafaro Giovanni Aiello, Sovereign-X	11.15
Looking beyond 2024: Next Phases of the Simpl Programme	Manuel Mateo Goyet DG CNECT	12.00
Lunch break		12.30-13.30

Agenda - Afternoon sessions

Session	Speaker	Timeslot
Exchange on Requirements Elicitation	Leire Orue Echevarria DG CNECT Saulo Sini, Sovereign-X	13.30
Exchange on the Architecture of Simpl-Open	Dominique Roelants DG CNECT Saulo Sini, Sovereign-X	14.30
Break		
Early Technical Choices for Simpl-Open	Manuel Mateo Goyet DG CNECT Saulo Sini, Sovereign-X; Matthijs Punter, DSSC Moderator: Julio Morales Silva Indra	15.45
Simpl-Live: Mood at half-way	Daniel Gonzalez, Jan Seidel, Sovereign-X Data Space Owners Moderator: Ralf Resch DG CNECT	16.45
Wrap up of the workshop	Manuel Mateo Goyet DG CNECT	17.40 - 17.45

State of Play

Ralf Resch & Valentina Staveris

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

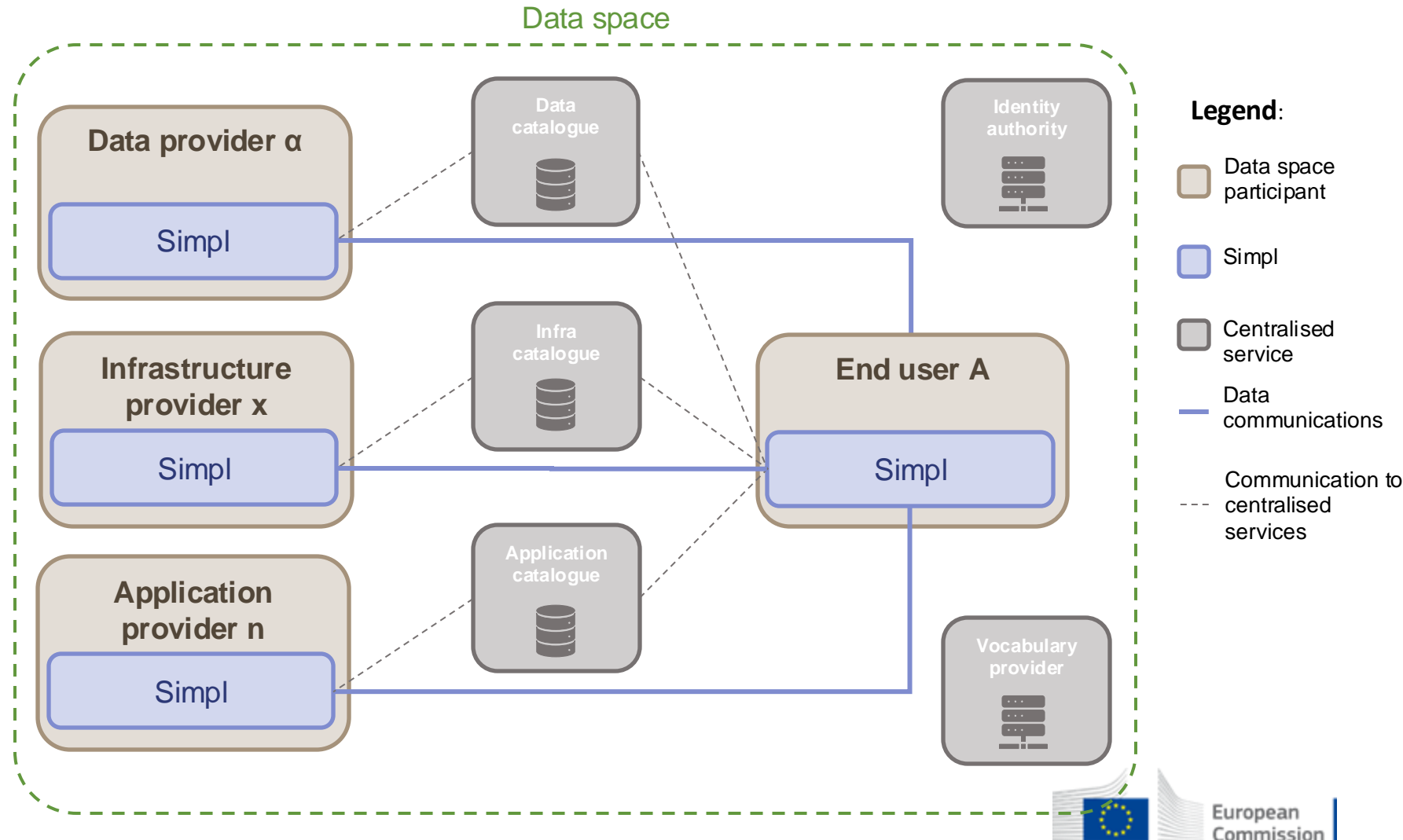
all major data initiatives, in particular the development of **Common European Data Spaces** modular and interoperable way.

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.

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 is made of three products

Simpl-Open

= the open-source smart middleware itself



Simpl-Labs

= playground environment for Simpl-Open
+
interoperability test for existing data spaces



= instances of Simpl-Open for common European data spaces

Simpl-Live



European Health Data Space 2^{ary}

eosc



Public Procurement Data Space



Destination Earth



Language Data Space



Smart Communities



Framework Contracts awarded

Sovereign-X

EVIDEN

Capgemini

aruba
CLOUD

IONOS



COSMOTE
GLOBAL SOLUTIONS

ENGINEERING
THE DIGITAL TRANSFORMATION COMPANY

InfrateX

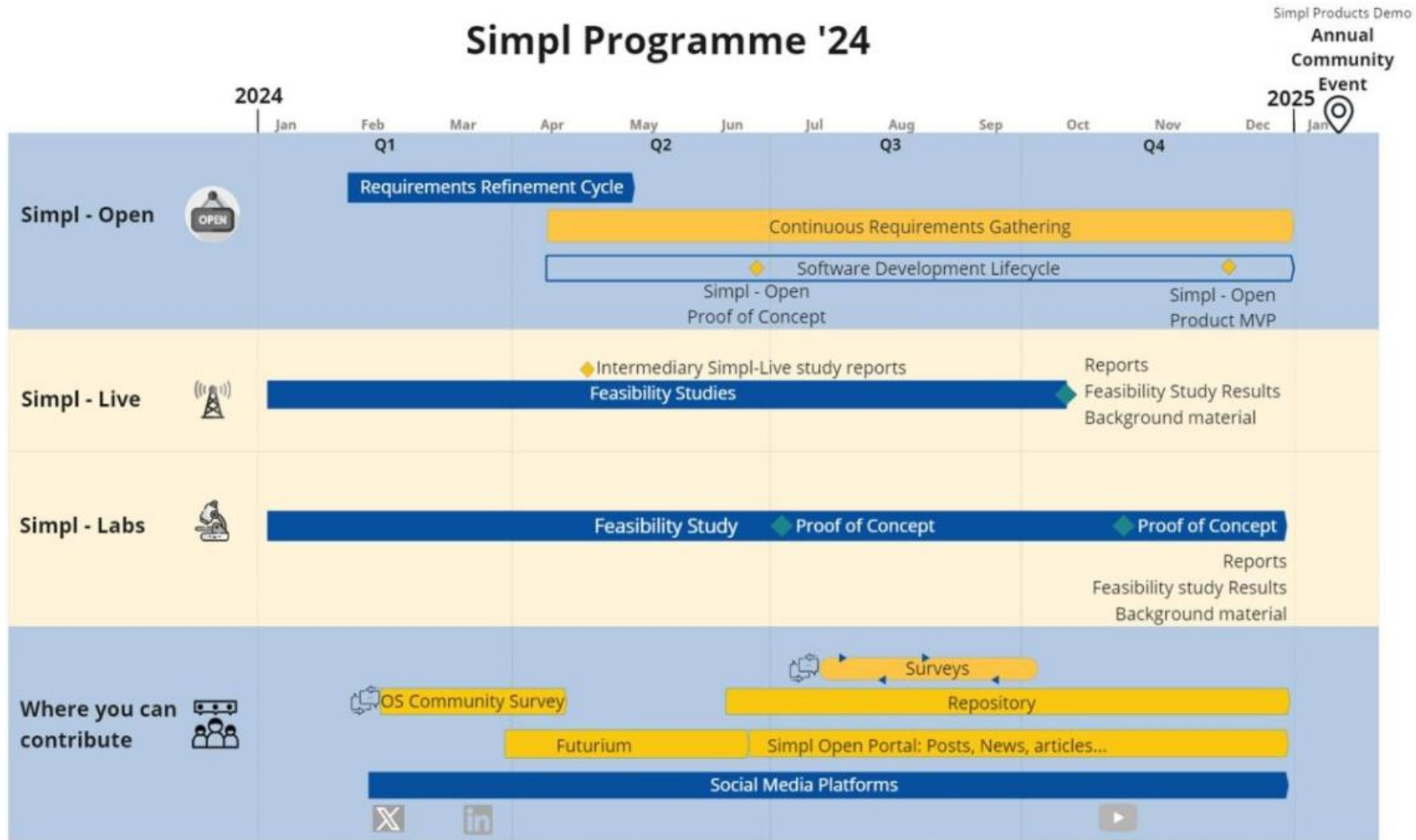
sopra  steria

NTT DATA

Programme Support
Office (quality assessment)

indra

2024 timeline



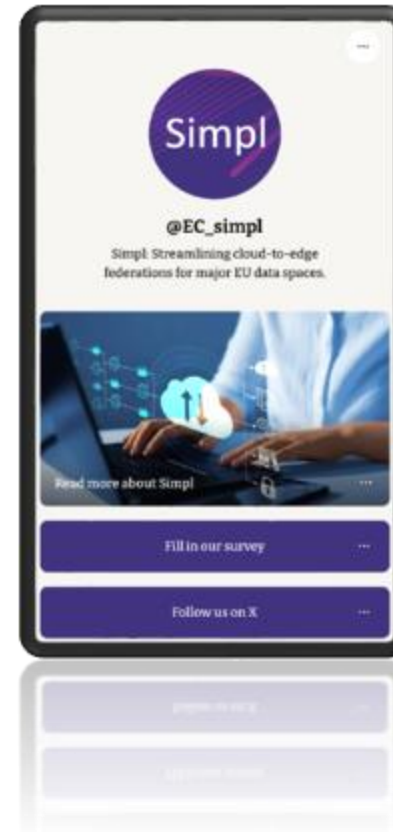
State-of-play

- Agile Development: Sprints of 3 weeks
- **Proof of Concept (PoC)**
 - Done! ▶ Demo
 - 2 sprints behind us (May and June)
 - Onboarding of a (data, applications, or infrastructure) provider
 - Publishing on the resource catalogue (of data, applications, or infrastructure)
- **Minimum Viable Product (MVP)**
 - Scope stabilised!

Engage with Simpl



Read more about Simpl and follow us on social media!



Simpl visual identity



From Futurium to Open Social

The screenshot shows the Futurium website interface. At the top, there is a navigation bar with the European Commission logo, a search bar, and a 'Log In' button. Below the navigation bar, the breadcrumb trail reads 'Futurium > Simpl > L1 High Level Requirement'. The main content area features a blue header with the 'Simpl' logo and a navigation menu including 'Home', 'About', 'Forum', 'L0 Business Processes', 'L1 High Level Requirements', 'L2 Detailed Requirements', 'Glossary', and 'Changelog'. The main heading is 'Onboarding of a new data space participant - supporting onboarding'. Below the heading, there is a 'Share' button and a message box that says 'Please login to join this community (Simpl)'. The document content includes a user profile for 'Johan van Wyk' (ONPRO-FUNC-001), a 'Description' section, a 'Status' section (Proposed), and a 'Related to' section with links to other documents.



The screenshot shows the Open Social website interface. At the top, there is a navigation bar with the European Commission logo, the 'Simpl Open' logo, and a navigation menu including 'Home', 'Repository', 'Academy', 'Community', 'Publication', and 'FAQ'. Below the navigation bar, there is a blue header with a decorative pattern and the 'Open' logo. The main content area features a breadcrumb trail 'L0 business processes > Onboarding of new Data...'. The main heading is 'Supporting onboarding' (ONPRO-FUNC-001). Below the heading, there is a 'Description' section and a 'Comments' section. The 'Comments' section shows a comment submitted by 'Jay' on 'Mon 25/03/2024 14:33'. The comment text reads: 'The description could be more detailed: SIMPL should allow the provision of user-friendly IT service catalog functions to allow browsing through available services, modules, support, users ...'. To the right of the main content, there is a sidebar with the heading 'Onboarding of a new Dataspace participant' and a list of items including 'Supporting onboarding', 'Onboarding procedure', 'Attribute placement durin...', 'Finalizing onboarding', and 'Participant actions'.

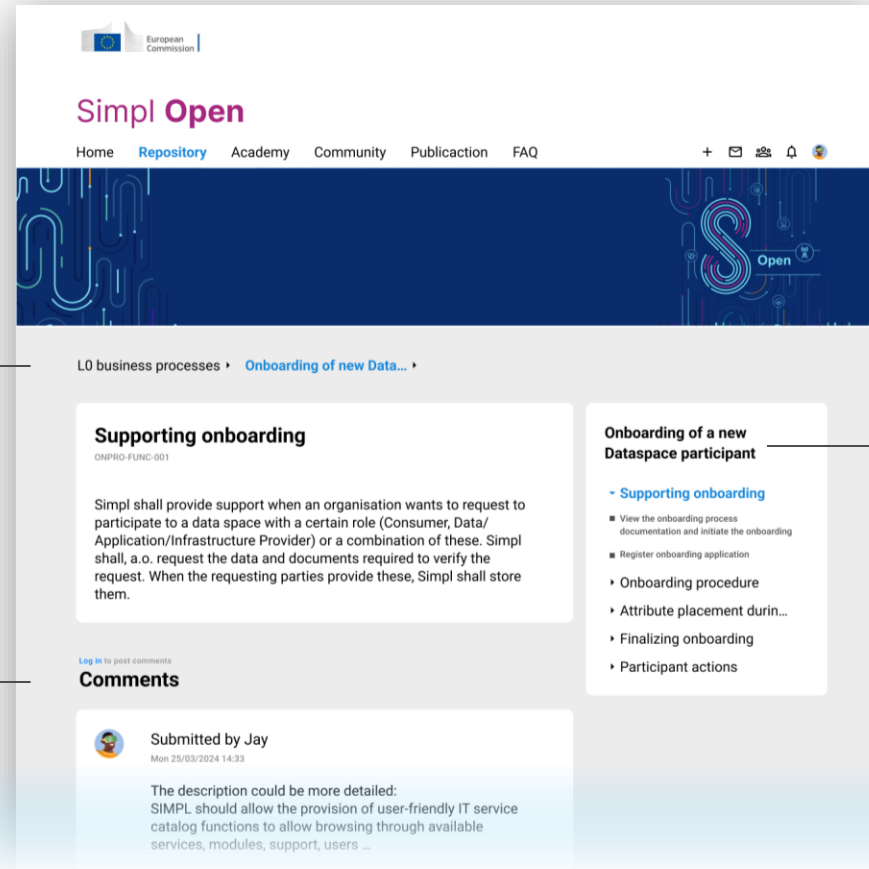
Mock up of “Book”

Bread crumbs

To navigate back from where you started

Comments

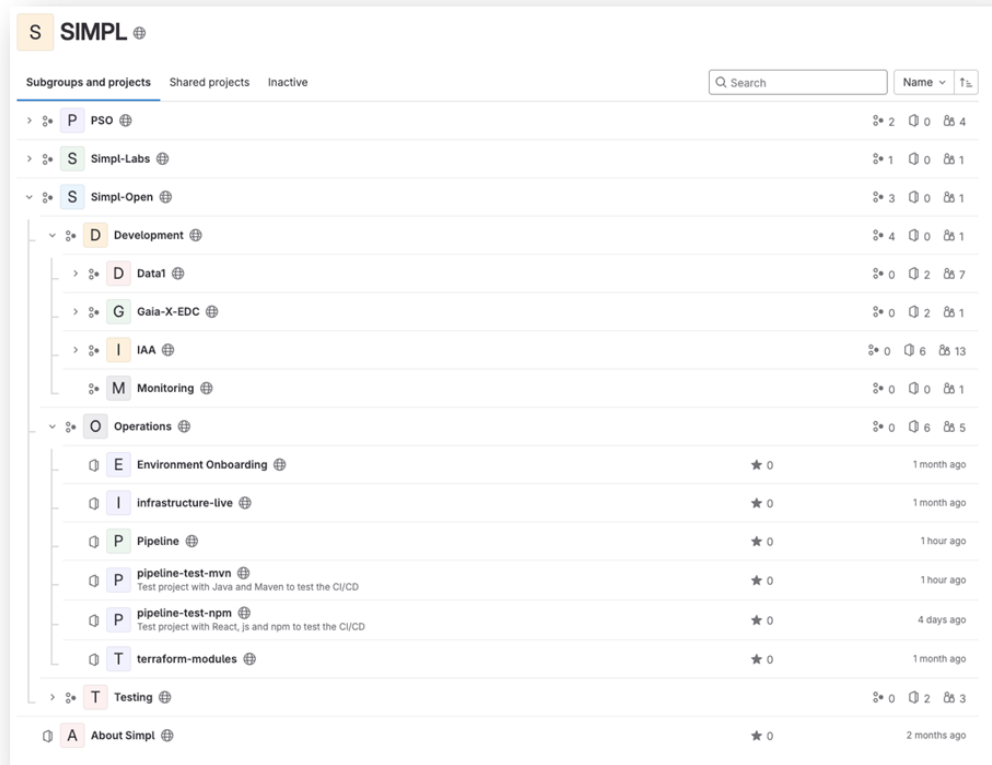
Comments right below the description making the view of the page more open for engagement



Dropdowns

To show where you are and provide overview of where else can be navigated toward within the business process

Engage with Simpl - Simpl is Open Source



<https://code.europa.eu/simpl>

Save the date!

Simpl Annual Community Event

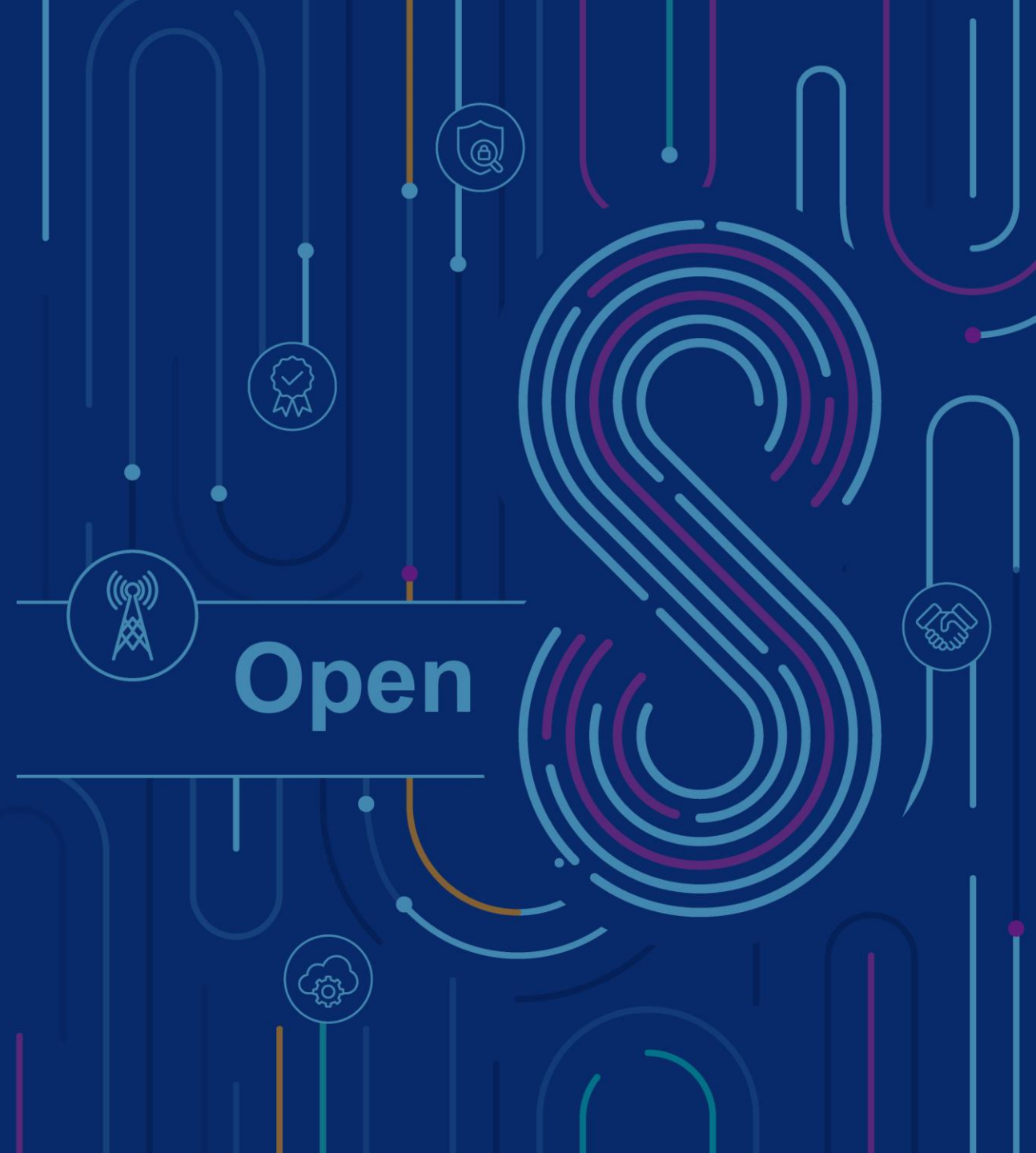
Thursday 30 January 2025
Autoworld, Brussels



Engage with Simpl

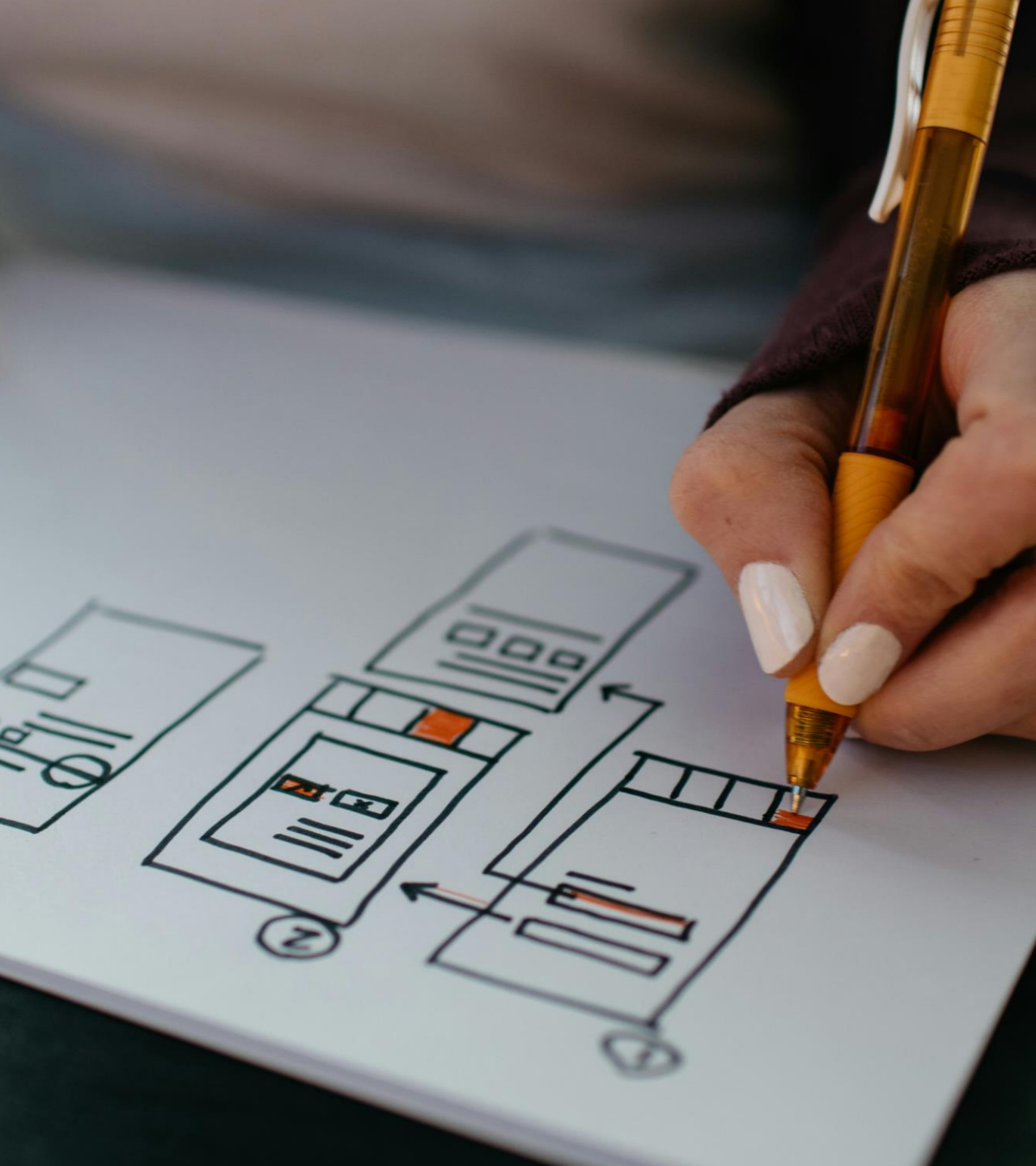


Open

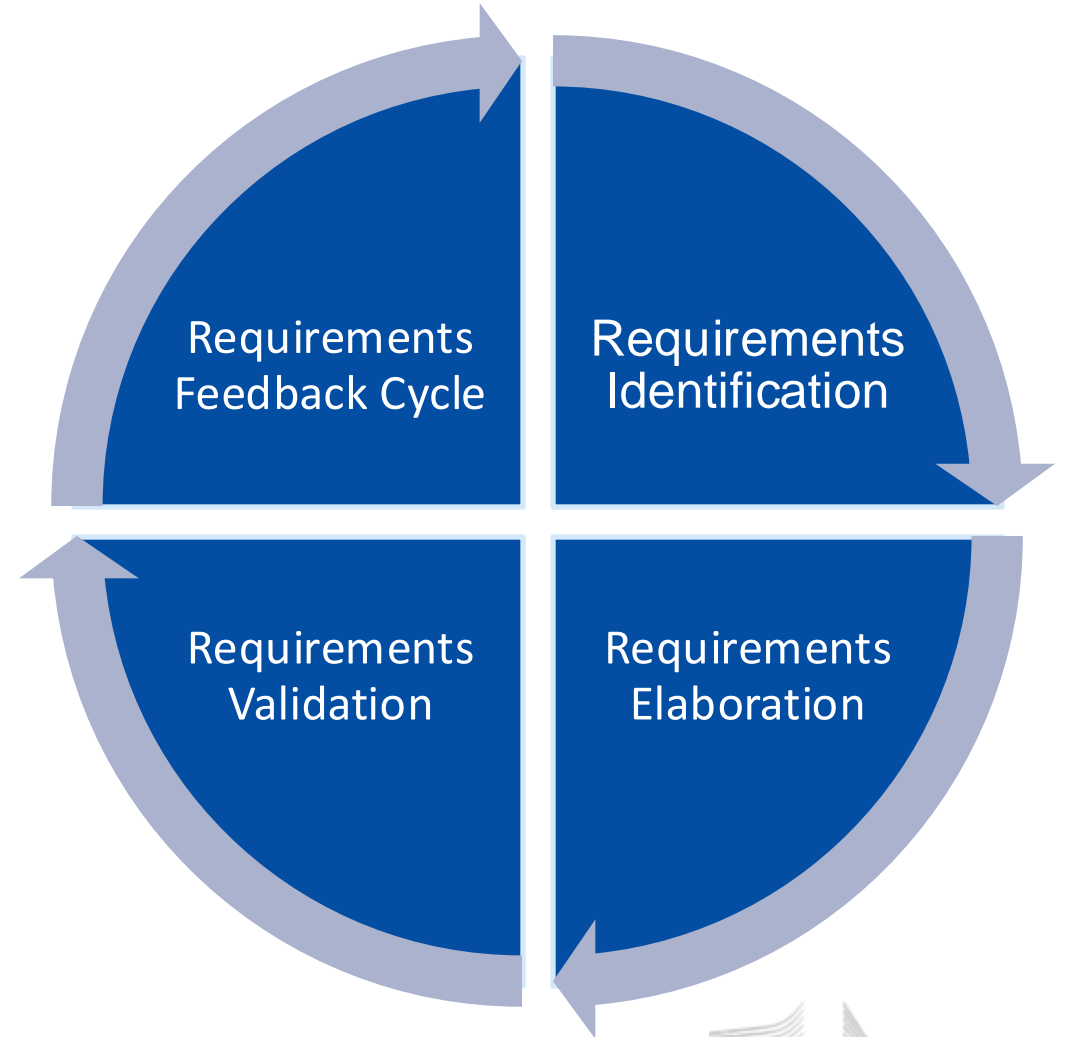


Simpl-Open Demo of the Proof of Concept

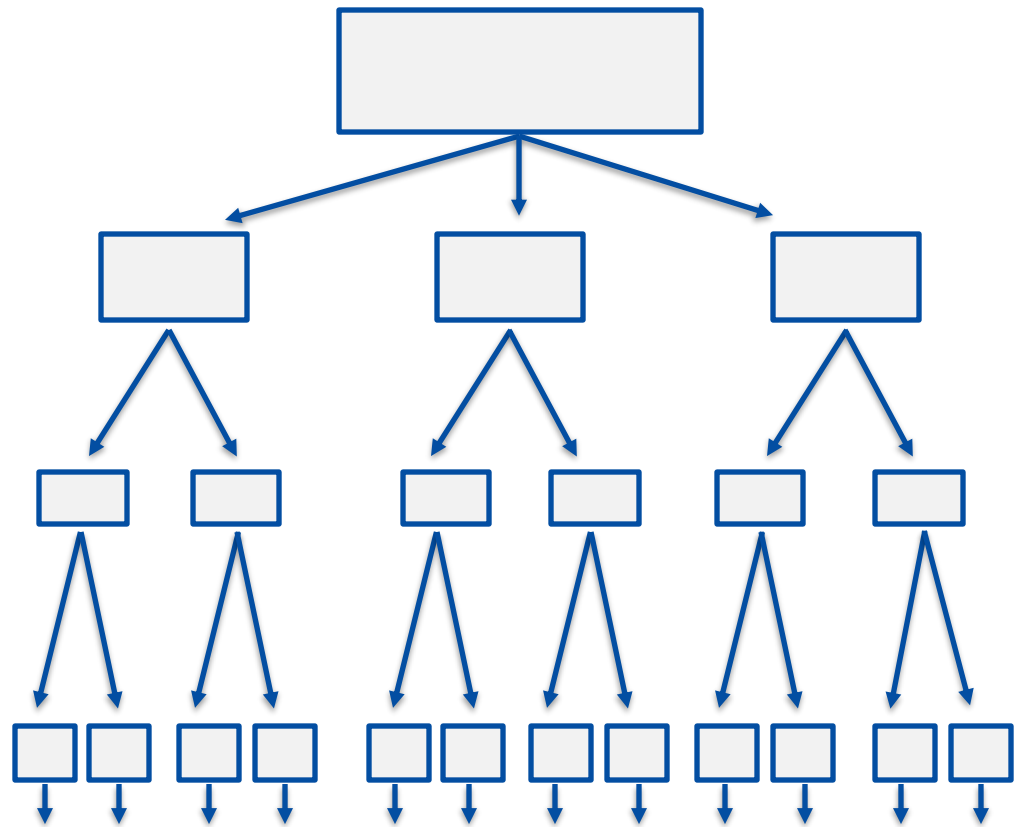
Dominique Roelants, Saulo Sini & Nicolas Auricchio



Simpl-Open requirements' elicitation follows an Agile approach



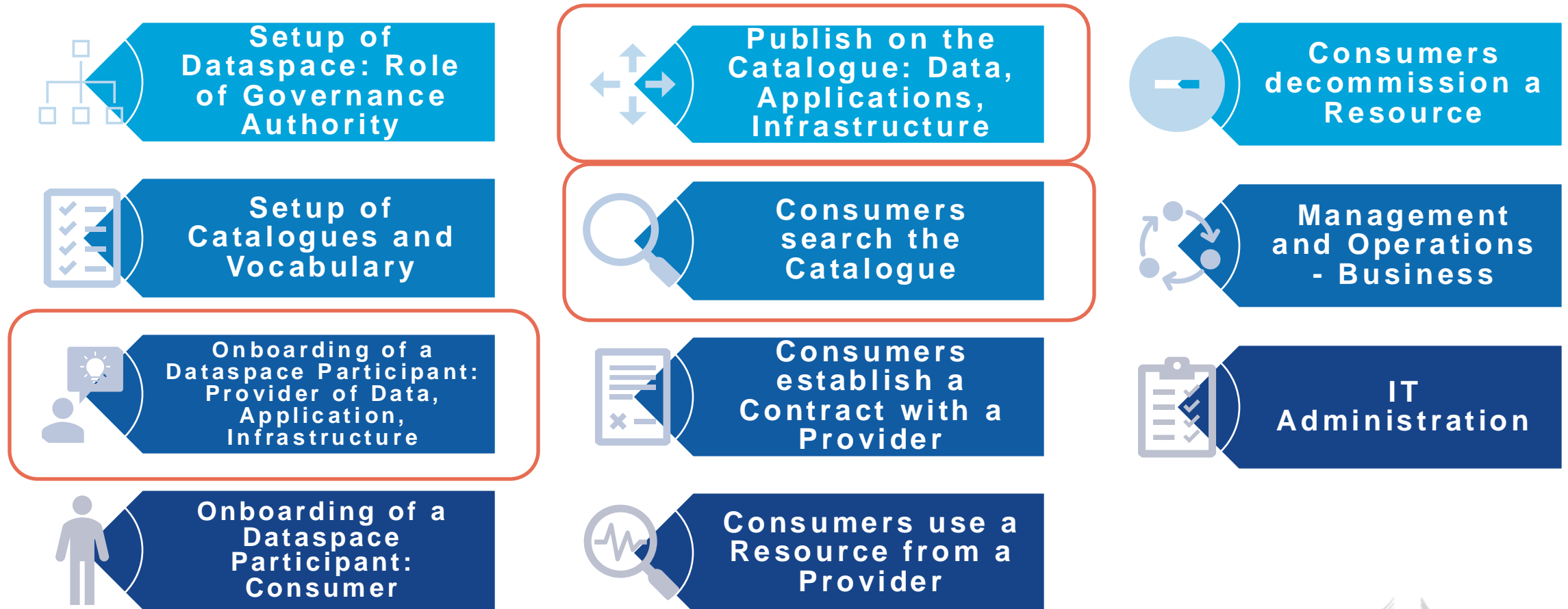
How Simpl-open refers to requirements



Architecture, open-source code, documentation

- L0** Business processes / Use cases
- L1** High-level requirements
- L2** Detailed requirements
- L3** User stories

3 out of 11 identified business processes are tackled as part of the proof of concept



Vocabulary: the main actors

Dataspace Governance Authority

- Oversees the dataspace governance and operations
- A.o. defines the rules and policies for participating to the dataspace

Provider

- Publishes and shares resources and services
- Data, Applications, Infrastructure

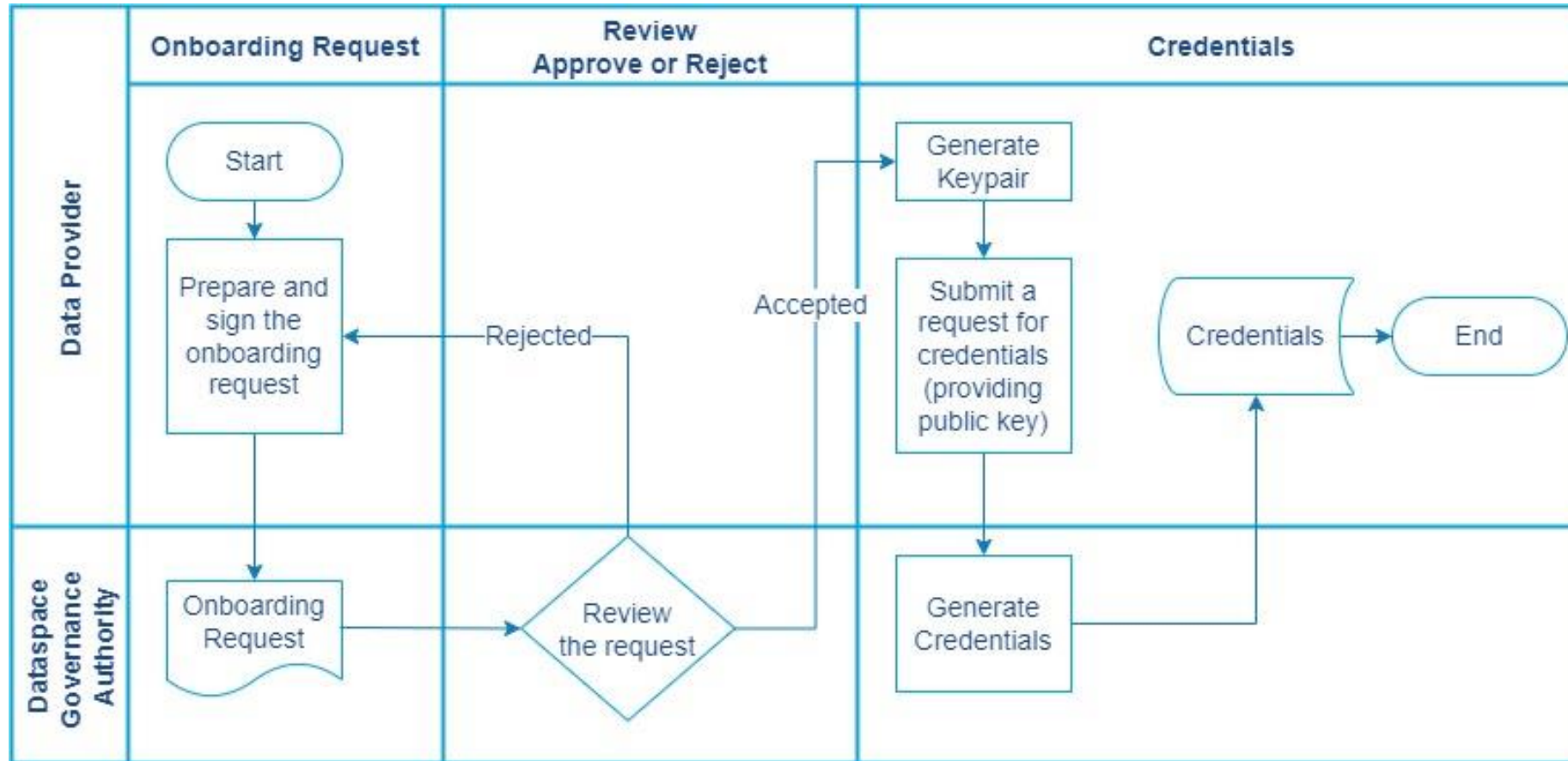
Consumer

- Searches for, accesses, and uses resources

Onboarding of a Provider - summary

- Before a provider of data, applications, or infrastructure can participate in a dataspace, they must be formally onboarded
- The Dataspace Governance Authority will have set the rules that the providers must fulfil to be onboarded
 - E.g. which documents to provide, security to set up

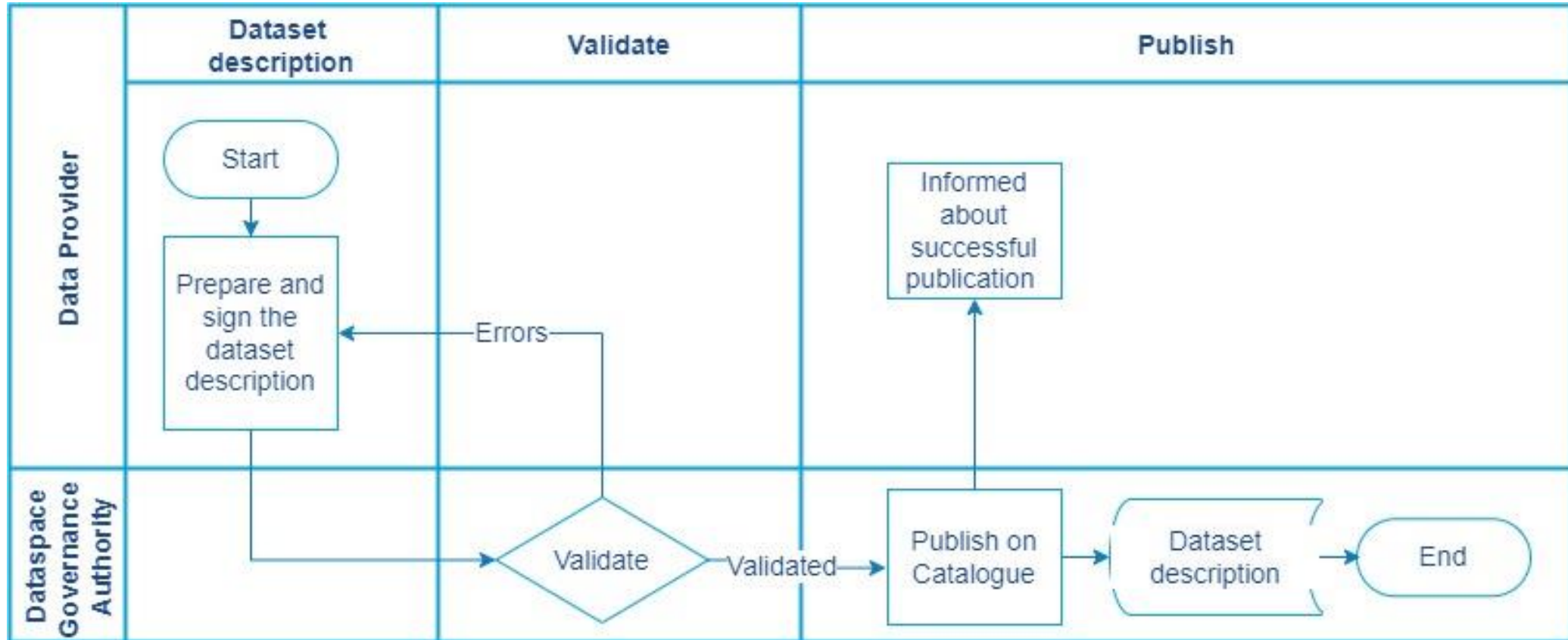
Onboarding of a provider – main steps



Publishing on the Catalogue - summary

- Providers can publish resources on the dataspace catalogue
- Resources can be:
 - Datasets
 - Applications
 - Infrastructure
- Resources published on the catalogue are discoverable by consumers

Publishing on the Catalogue – main steps



Demo



Simpl-Labs

Ana Juan Ferrer, Lucian Onisei & Federico Paparoni

Simpl-Labs core features

Simpl-Labs will offer a learning environment for a dynamic educational setting designed to facilitate structured and specific learning journeys for individuals or groups on Simpl-Labs usage and purposes.

Learning environment

Simpl-Open federated component catalog to handle data, applications, and infrastructure management. Ready to use templates will be tailored to diverse business use cases.

Catalogue of Simpl-Open's components and templates

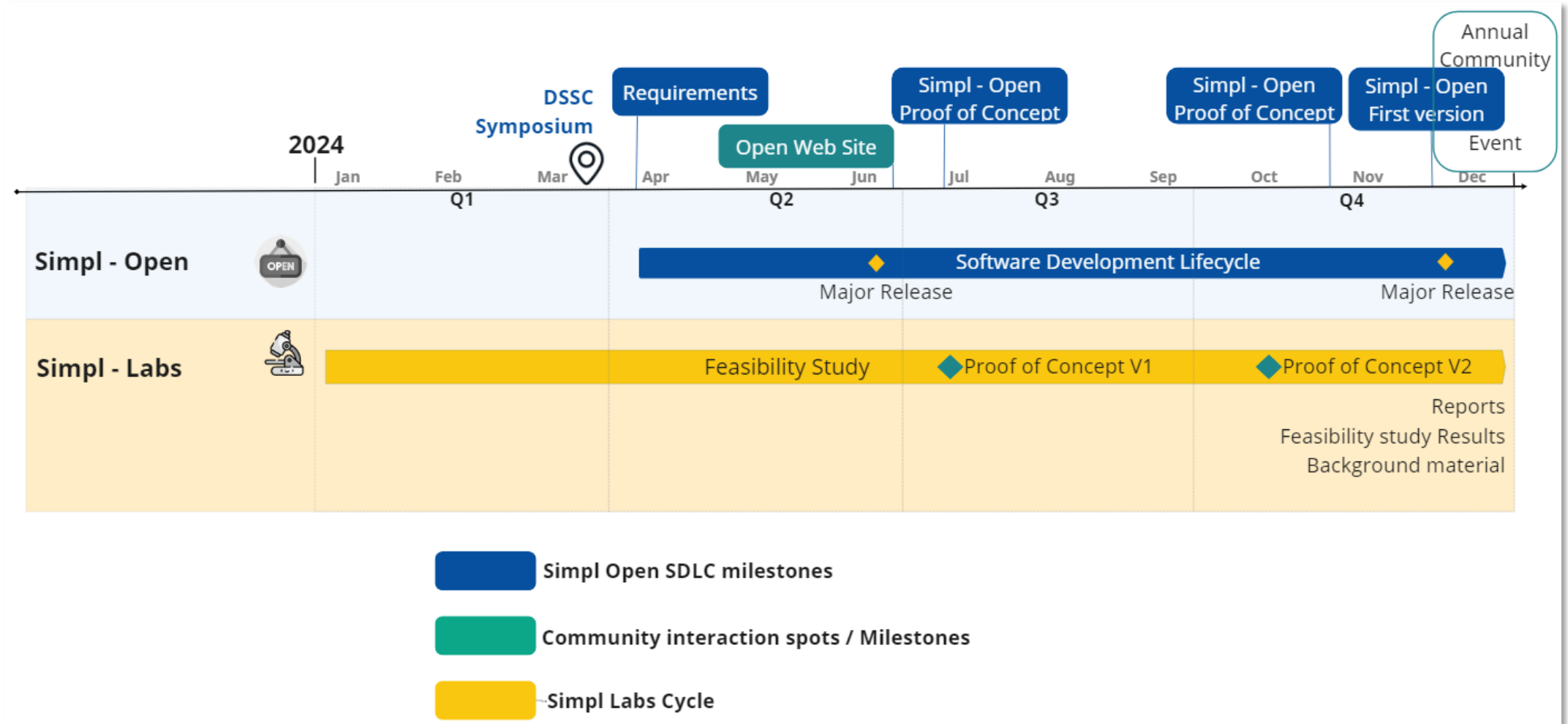
Portal & Autoprovisioning

The Simpl-Labs Portal will be the place where Business Users can **require the provisioning of an isolated Simpl-Open test environment**, including data sources configuration in a machine-readable format.

Conformance test

Conformance testing features for custom components developed to integrate external Data Space into the Simpl ecosystem. Detailed reports and precise tests are conducted to ensure API and data compliance.

Roadmap



The Simpl-Labs feasibility study will produce four main outcomes



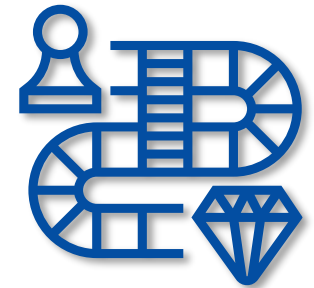
Functional and non-functional user requirements



Simpl-Labs detailed Architecture



Working proof-of concept with the implementation of three selected use cases



Proof-of viability of Simpl-Labs, including feasibility study and hand-over reports

Simpl-Labs PoC : functionalities



Data Space setup



Conformance testing



Monitoring

Data Space setup

Create a Data Space 1. Select a Template 2. Set up Data Space 3. Data Space details 4. Conditions Back Next

Set up Data Space

Nodes, categories, compon

Minimum Viable Data Space Add Nodes

GOVERNANCE_AUTHORITY EDIT

DATA_PROVIDER_2 EDIT

DATA_PROVIDER EDIT

APPLICATION_PROVIDER

DATA_PROVIDER_3

PoC Demo Data Space RUNNING

Data Space architecture Information Console / Logs

```
1:Pods 2:simpl-open-ga-node-agent-fe-component
• Pods [simpl-labs-poc-dev/tenantresources]
NAME                                STATUS    AGE
dataspaces-50-data-186-simpl-open-dataprovider-node-agent-76pwzn    Running   1d 5h
dataspaces-50-data-186-simpl-open-dataprovider-node-data-sejqvvh    Running   1d 5h
dataspaces-50-data-186-simpl-open-dataprovider-node-sd-toolj4s4l    Running   1d 5h
dataspaces-50-ga-185-simpl-open-ga-node-consent-595c484586-rkofs    Running   1d 5h
dataspaces-50-ga-185-simpl-open-ga-node-contract-9d578898b-lslmn    Running   1d 5h
dataspaces-50-user-187-simpl-open-enduser-node-agent-7d8755bbfkh    Running   1d 5h
dataspaces-51-data-189-simpl-open-dataprovider-node-agent-5j7zm5    Running   1d 3h
dataspaces-51-data-189-simpl-open-dataprovider-node-data-se4p8hd    Running   1d 3h
dataspaces-51-data-189-simpl-open-dataprovider-node-sd-tool4pwvj    Running   1d 3h
dataspaces-51-ga-188-simpl-open-ga-node-agent-684c5cddb6-j866p    Running   1d 3h

-Logs [simpl-open-ga-node-agent-fe-component] Running
2024-06-27T13:11:35.051279058Z 2024/06/27 13:11:35 [notice] I#1: 05: Linux 5.15.0-102-generic
2024-06-27T13:11:35.051282116Z 2024/06/27 13:11:35 [notice] I#1: getrlimit(RLIMIT_NOFILE): 1048576:1048576
2024/06/27 13:11:35 [notice] I#1: start worker processes
2024/06/27 13:11:35 [notice] I#1: start worker process 29
2024/06/27 13:11:35 [notice] I#1: start worker process 30
2024-06-27T13:11:35.051293107Z 2024/06/27 13:11:35 [notice] I#1: start worker process 31
2024-06-27T13:11:35.051308307Z 2024/06/27 13:11:35 [notice] I#1: start worker process 32
2024-06-27T13:11:35.051311342Z 2024/06/27 13:11:35 [notice] I#1: start worker process 33
2024-06-27T13:11:35.051314078Z 2024/06/27 13:11:35 [notice] I#1: start worker process 34
2024-06-27T13:11:35.051316783Z 2024/06/27 13:11:35 [notice] I#1: start worker process 35
2024-06-27T13:11:35.051319439Z 2024/06/27 13:11:35 [notice] I#1: start worker process 36

✓ Connected to https://poc-simpl-labs-kubebbox.dev.simpl-europe.eu/master
```

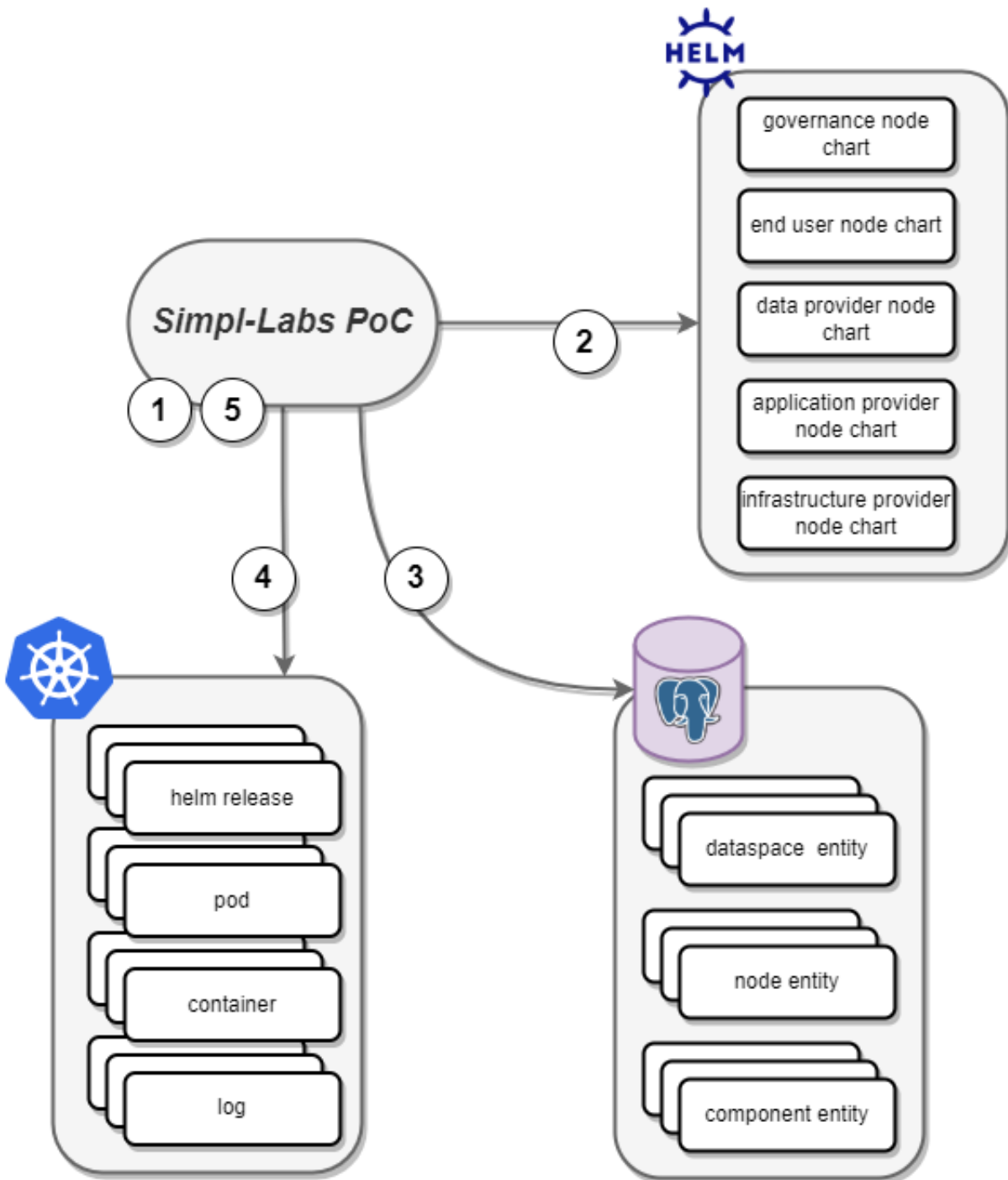
- The user can model the high-level Data Space structure and configure individual components in detail. Components can be replaced with custom ones.
- After creating the dataspace, it is possible to interact with the components, including via a web console for accessing logs and command shells

Data Space setup: PoC Demo

DEMO
TIME

1. User has been granted access to Simpl-Labs and can now enter into the tenant to start experimentation
2. Exploring available templates
3. Creation of new Data Space using the wizard
4. Access to the details of Data Space created
5. Access to the components logs using a console

Data Space setup: technical details



1. The user uses the wizard to choose the dataspaces structure, adding nodes and configuring components
2. The system starts an asynchronous installation, selecting the Helm charts for each node
3. References to the nodes and components are saved transactionally
4. All necessary resources are created in a dedicated namespace
5. Once the process is complete, the user can access a web console to read logs and remotely access the component

Conformance testing

Components

Component	Version	Test	Status	Results
Component 1	1.7	Consent v.2	Failure	33% 33% 33%
Component 2	1.9	IAA_Local v.1.2	Success	100% 100%
Component 3	1.9	Logging v.1.2	Failure	50% 50% 50%

Conformance test

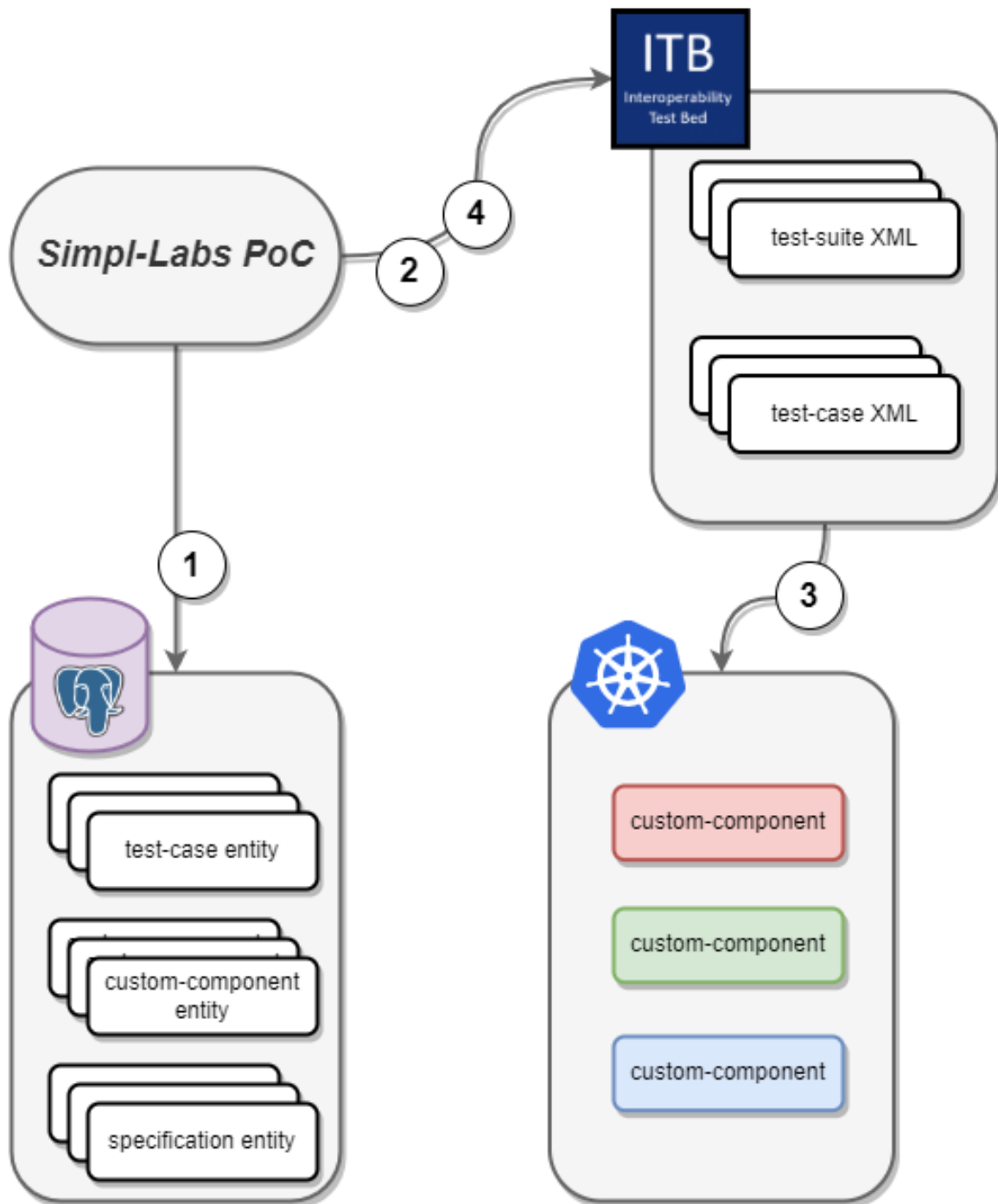
Component 1
Test #1

START TIME: 17/05/2024 12:30:00
END TIME: 17/05/2024 12:44:00
DURATION: 00:14:18

Test cases executed: 1/2 Success, 1/2 Failed

Test Case	Test suite	Suite last update	Description	Start time	End Time	Status	Logs	Report
Test case 1	Test suite 1	24/2/2024	Lorem ipsum dolor sit amet consectetur. Sodales odio ullamcorper ullamcorper in aliquet et montes	12:30:00	12:35:00	Failed		
Test step	Description	Start Time	End Time	Status				
Step 1	Lorem ipsum dolor sit amet consectetur. Sodales ullamcorper in aliquet et montes ut.	12:30:00	12:32:00	Success				
Step 2	Lorem ipsum dolor sit amet consectetur. Sodales ullamcorper in aliquet et montes ut.	12:30:00	12:35:00	Failure				
Test case 2	Test suite 1	24/2/2024	Lorem ipsum dolor sit amet consectetur. Sodales odio ullamcorper ullamcorper in aliquet et montes	12:30:00	12:44:00	Success		

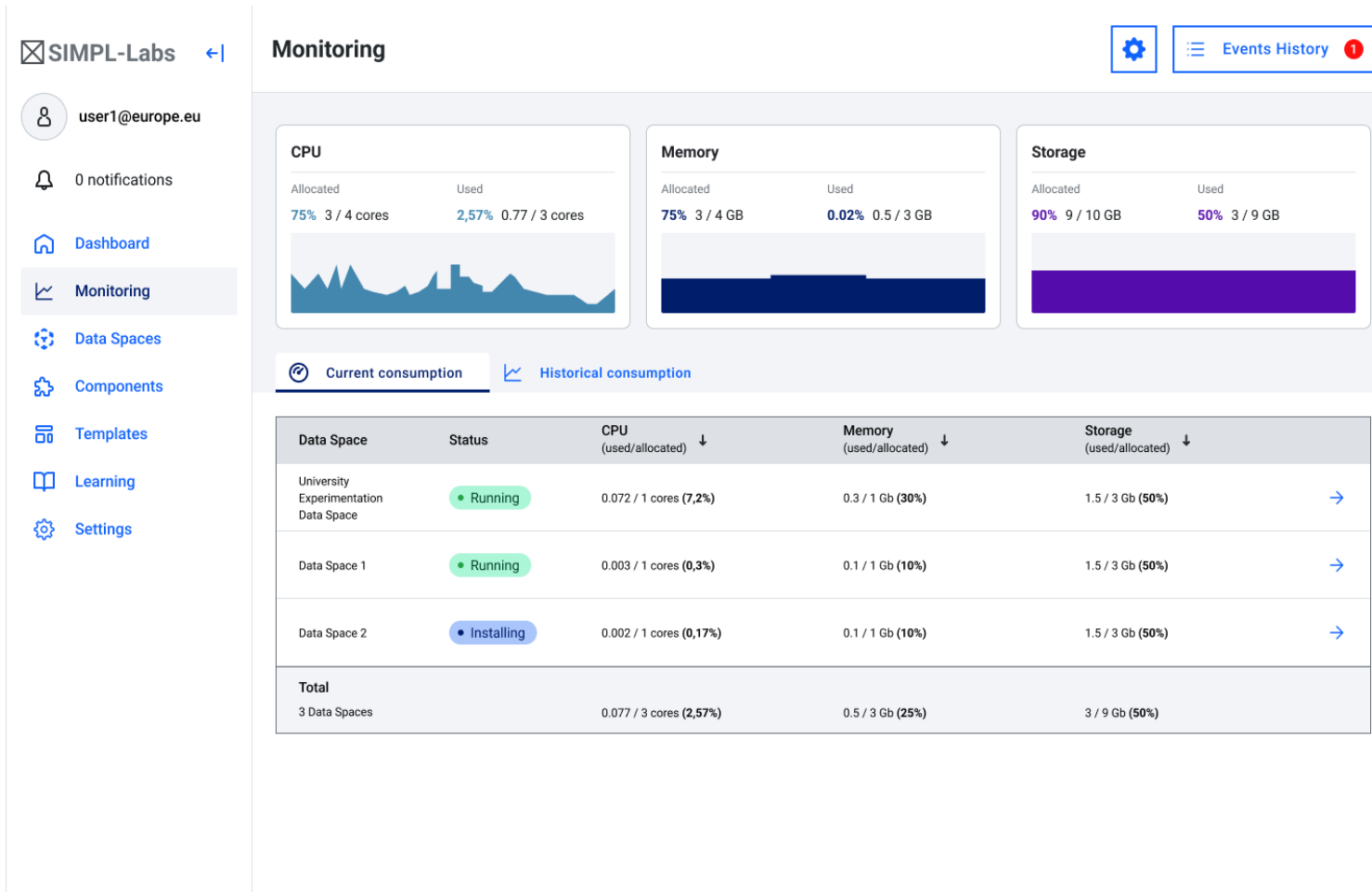
- A series of custom components, already uploaded by the user and associated with a Simpl-Open specification, are tested in a simulation environment.
- For each component, test sessions can be initiated to provide information on the component's compliance with the specifications.



Conformance testing: technical details

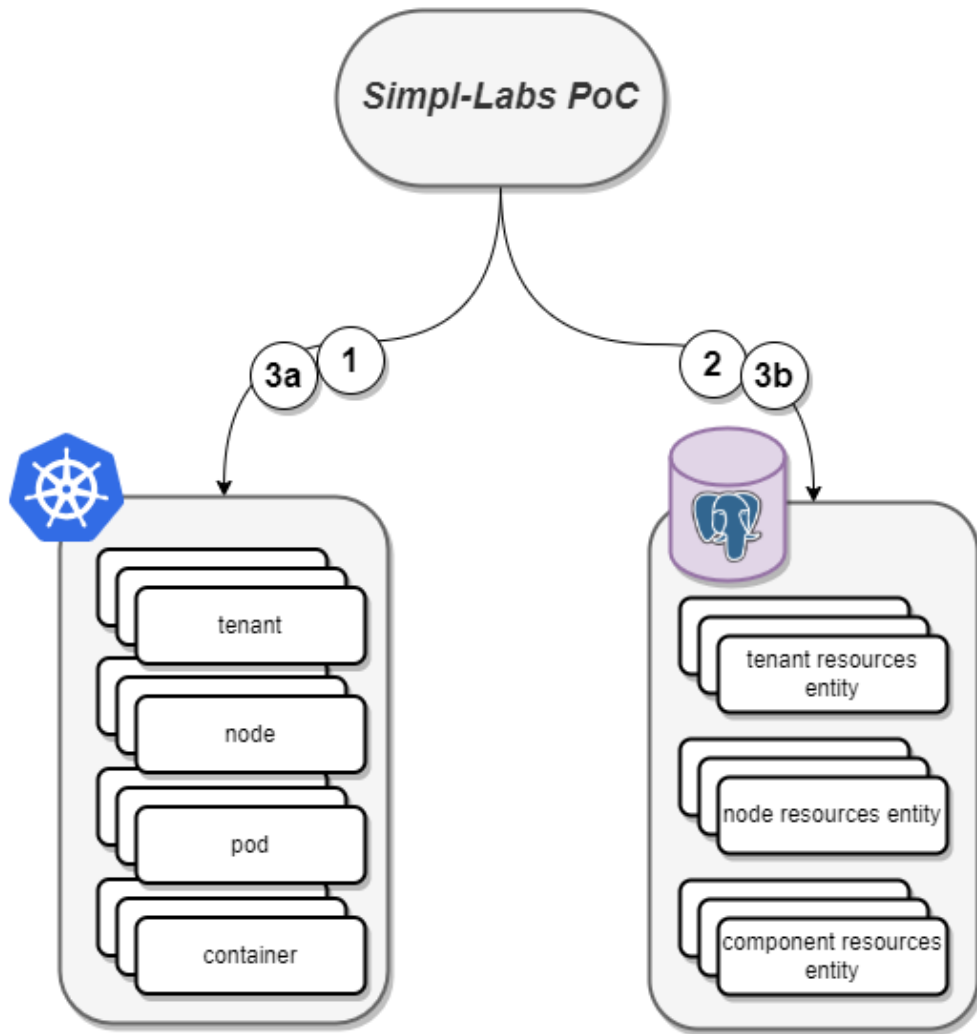
1. The user selects the component to test, linked to specific Simpl-Open test cases
2. The system runs these test cases through ITB
3. ITB executes the test cases, communicating with the custom components
4. The system verifies the execution and allows the user to monitor the results

Monitoring



- Each tenant is assigned specific resources, which can be monitored using this feature
- The dashboard allows for high-level resource analysis for data spaces, drilling down to nodes, and finally providing detailed information on individual components

Monitoring: technical details



PoC focus on Infrastructure monitoring

1. The system queries the cluster for resource consumption
2. The system stores some information to track historical trends
3. The user requests monitoring data, and the system displays real-time and historical information in graphs at various levels of detail

Looking beyond 2024 Next Phases of Simpl Programme

Manuel Mateo Goyet

Extension #1 – Follow-up to Simpl-Labs & current live studies

- Development, deployment, operation and maintenance of Simpl-Labs
- Follow-up to the ongoing Simpl-Live studies
 - Expected to consist in the support for the deployment of Simpl-Open
 - Expected to cover the 6 existing studies

Tentative Timing: specs sent in 24 Q4/25 Q1 for a contract start date in 25Q1

Extension #2 – 5 new Simpl-Live studies

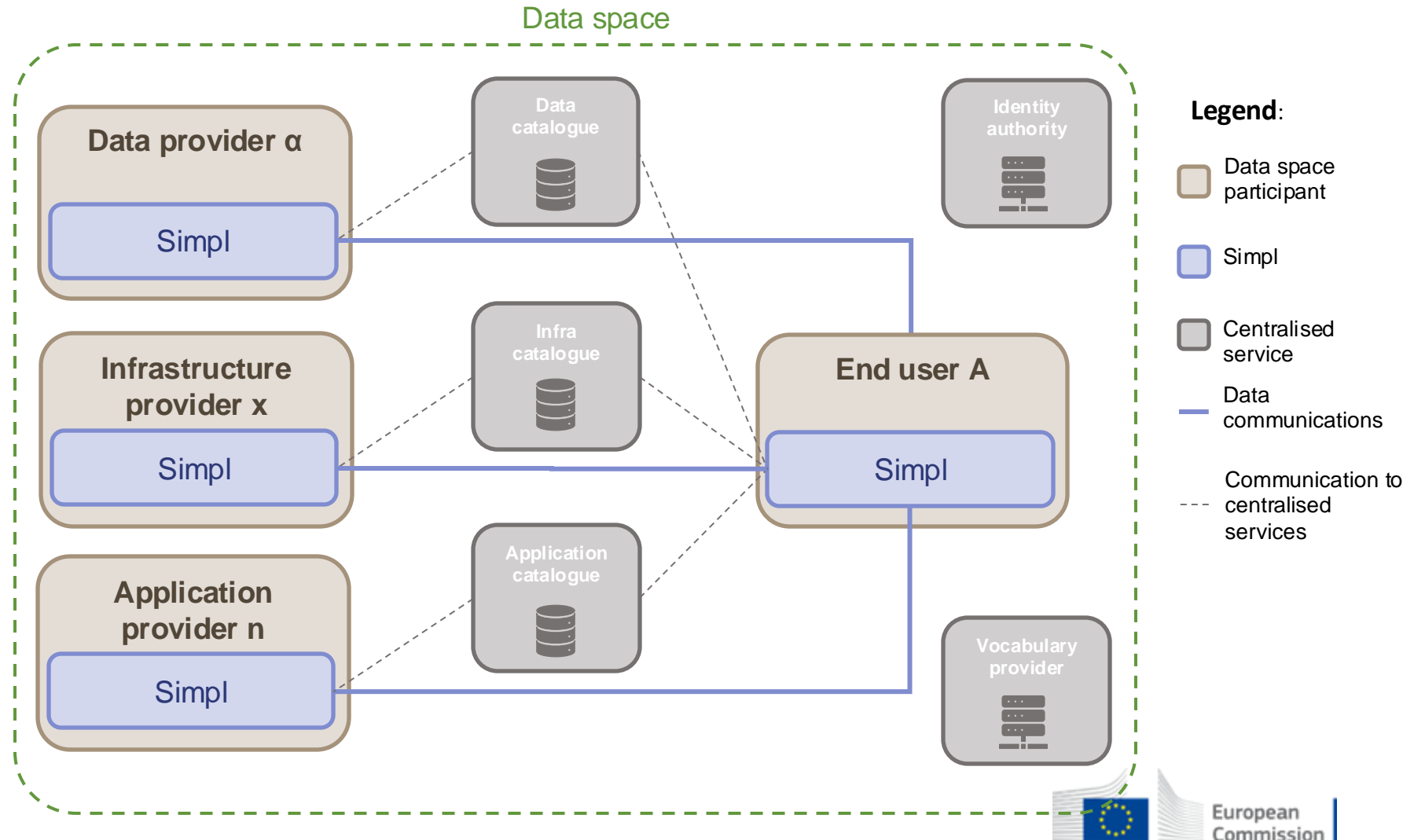
- 4 additional data spaces:
 - Green deal data space
 - Mobility data space
 - Agriculture data space
 - Energy data space
- EuroCloud: the public sector interconnection of generic infrastructures.

Tentative Timing: Specs sent in July. Contract signed before end of the year.

Simpl is deployed throughout data spaces

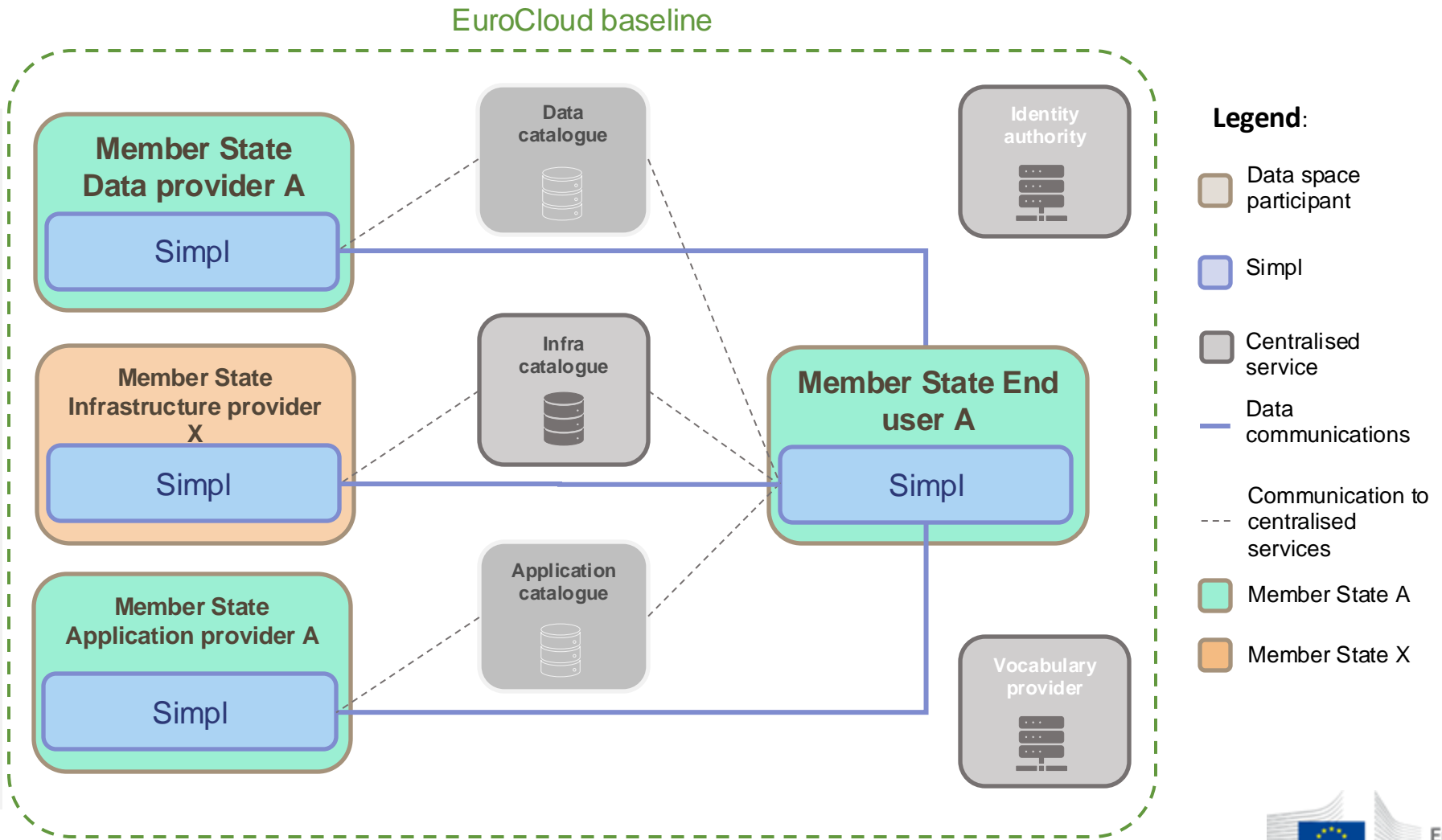
With centralised and decentralised components

- 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



Baseline use case - Member State A wants/needs to use the infrastructure of Member State X

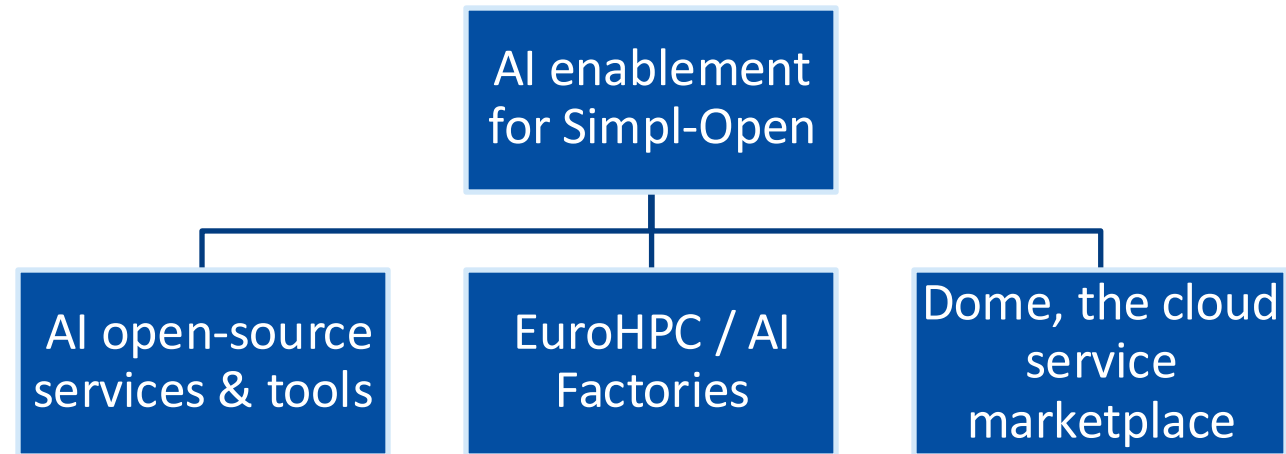
- Member State A:
- Provides its own data
 - Provides its own application
 - Is the final user of the data
- Member State X:
- Provides the infrastructure over which Member State A will process the data
- Not really needed:
- The data and application catalogues are “within” Member State A



Extension #3 – AI enablement for Simpl-Open

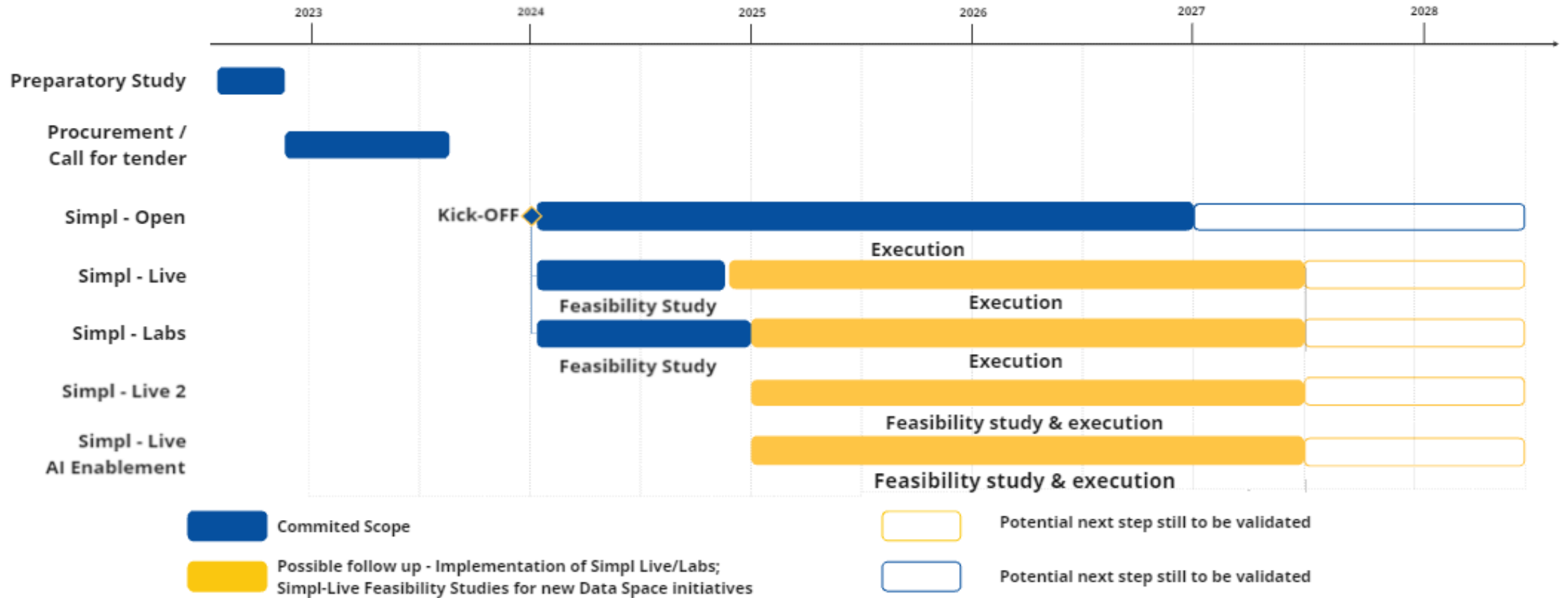
- Objective:
 - Allow Data Spaces using Simpl-Open to execute AI workloads over EuroHPC and get access to pre-trained AI services
 - Give a straightforward access to DOME for Data Space users
- An extension, but not a substitute, to Simpl-Open as currently foreseen.

Tentative Timing: specs sent in July 2024.
Contract signed before end of the year.



The programme 2024 onwards

Simpl Programme



Lunch break

12.30 – 13.30

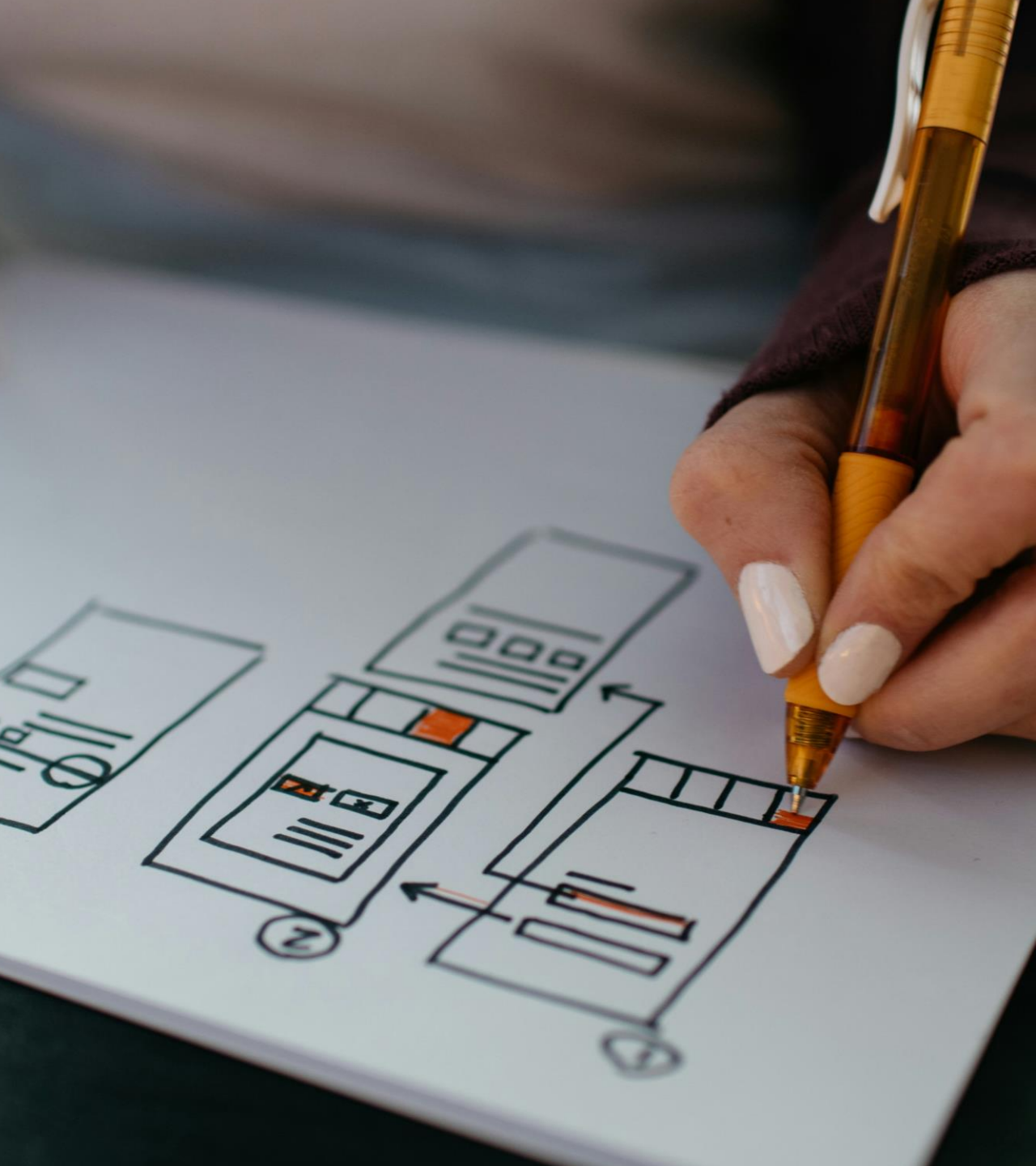
Exchange on Requirements Elicitation (13:30-14:30)

Leire Orue-Echevarria
Saulo Sini

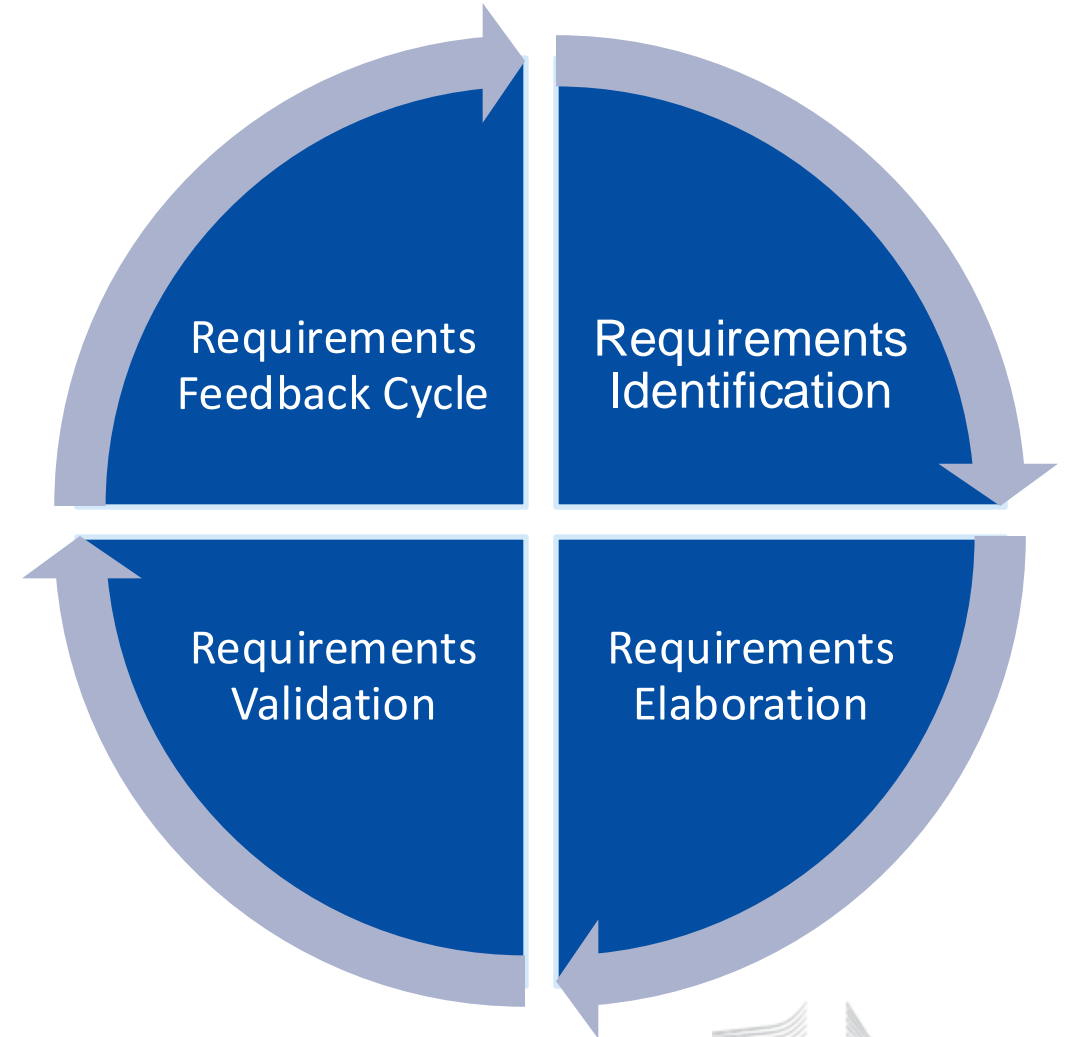
Moderator: Julio Morales Silva

From an initial baseline to an evolving set of Simpl-Open Requirements

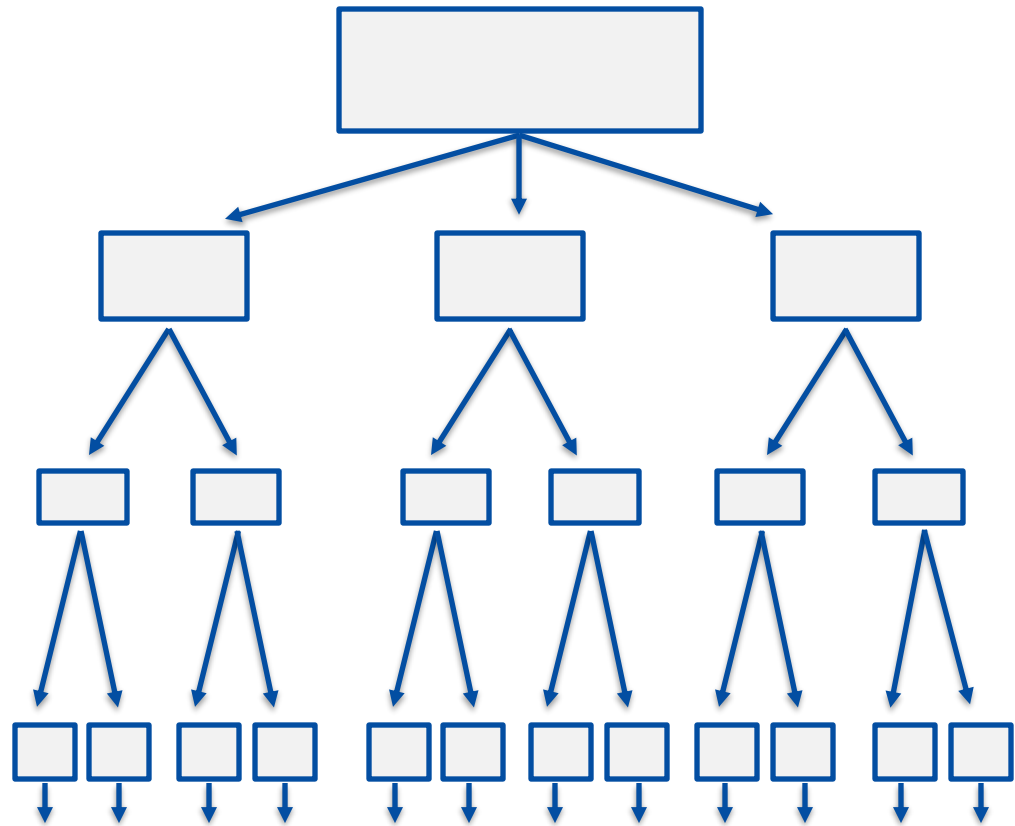




Agile Requirements Elicitation



How Simpl-open refers to requirements



L0 Business processes / Use cases

L1 High-level requirements

L2 Detailed requirements

L3 User stories

Architecture, open-source code, documentation

Simpl-Open's business processes



Setup of
Dataspaces: Role
of Governance
Authority



Setup of
Catalogues and
Vocabulary



Onboarding of a
Dataspaces Participant:
Provider of Data,
Application,
Infrastructure



Onboarding of a
Dataspaces
Participant:
Consumer



Publish on the
Catalogue: Data,
Applications,
Infrastructure



Consumers
search the
Catalogue



Consumers
establish a
Contract with a
Provider



Consumers use a
Resource from a
Provider



Consumers
decommission a
Resource

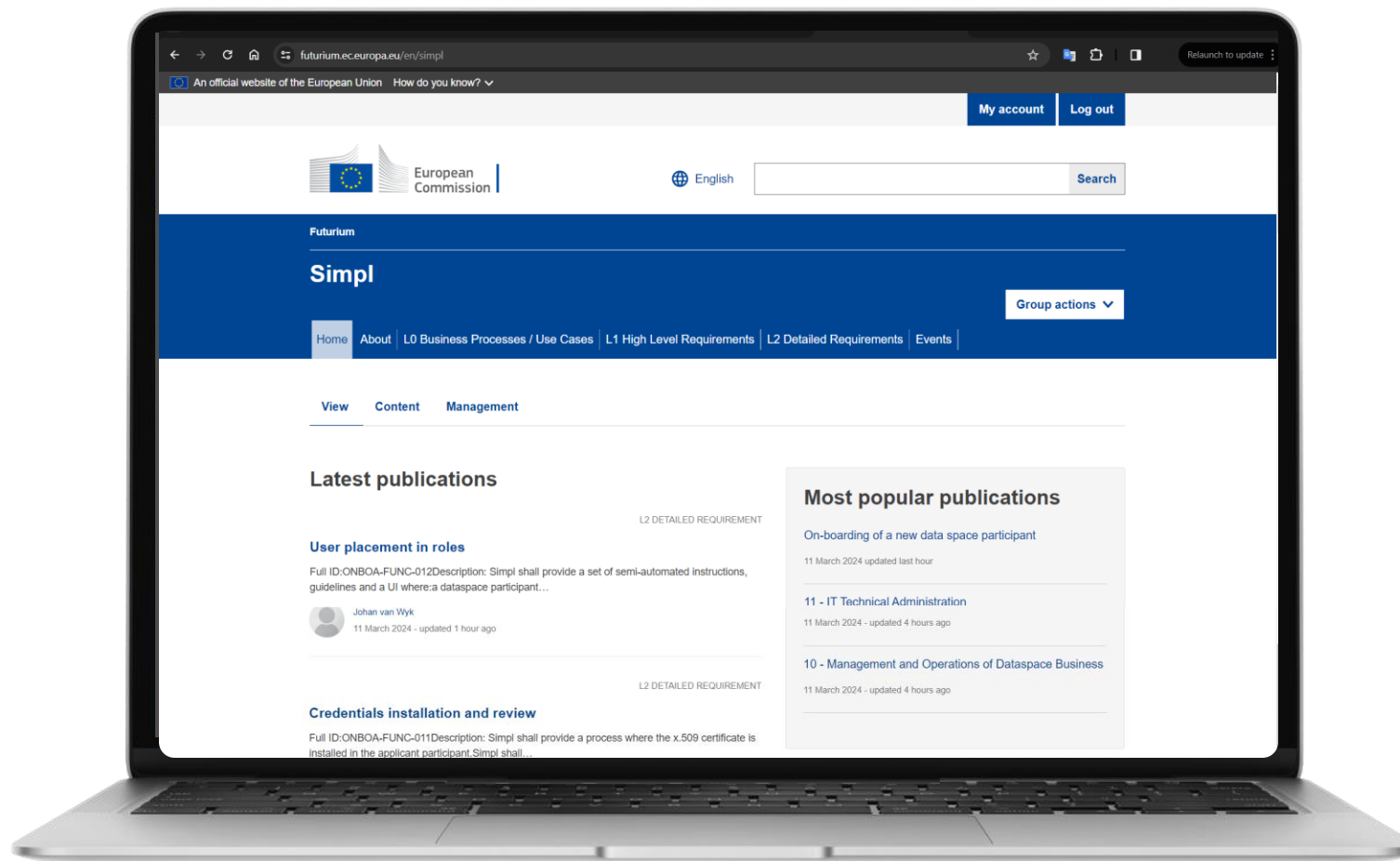


Management
and Operations
- Business



IT
Administration

Simpl-open requirements are updated regularly



<https://futurium.ec.europa.eu/en/simpl>

Confluence - Navigation



Futurium as now
[L0 Business Processes | Futurium \(europa.eu\)](#)

Publication on WebSite (Later)

Questions

- ***Current understanding*** of the proposed Business Processes ?
- ***Your feedback*** on completeness and coverage ?
- Any ***missing*** points ? Or areas that requires ***planning priority*** ?

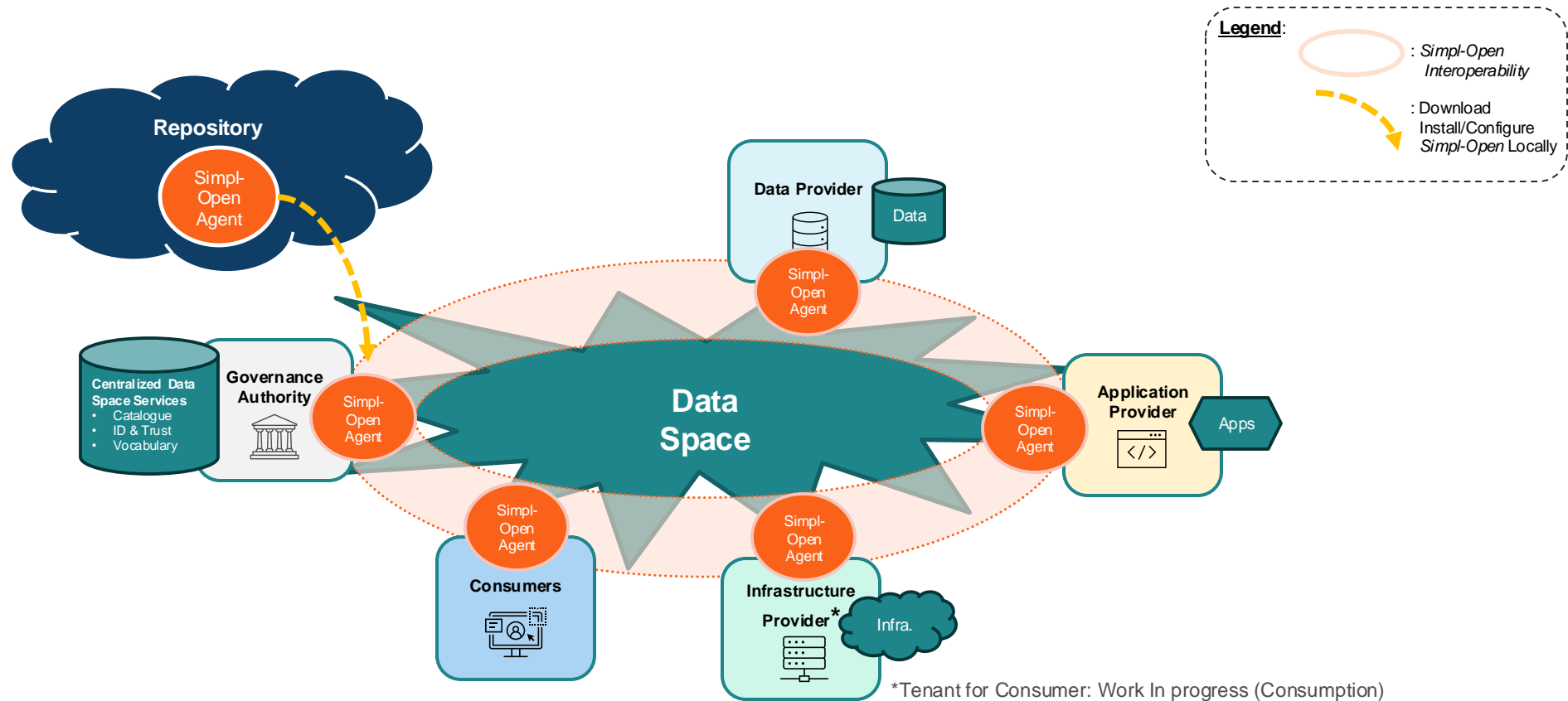
Exchange on the Architecture of Simpl-Open (14:30-15:30)

Dominique Roelants
Saulo Sini

Moderator: Julio Morales Silva

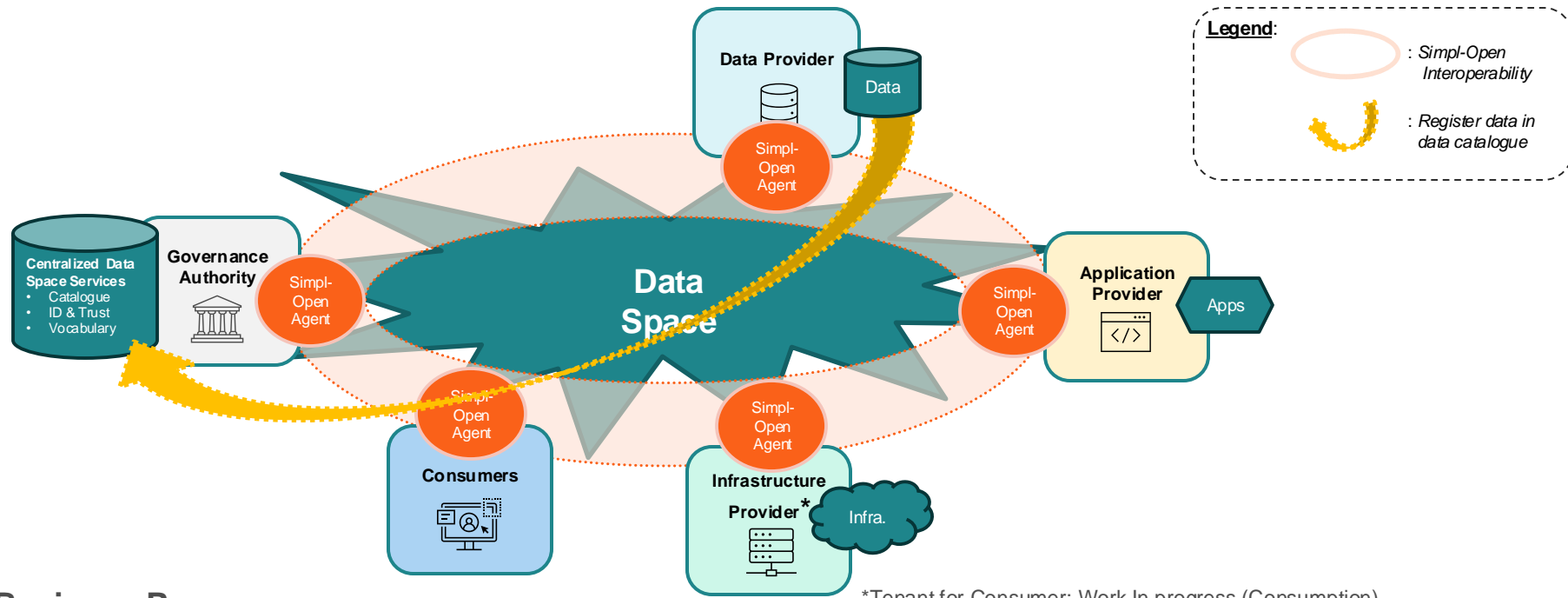
Simpl-Open agent in context (Individual data space/initiative perspective)

Each data space/initiative actor can download the Simpl-Agent from a central repository, enabling interoperability.



Example for a typical business process

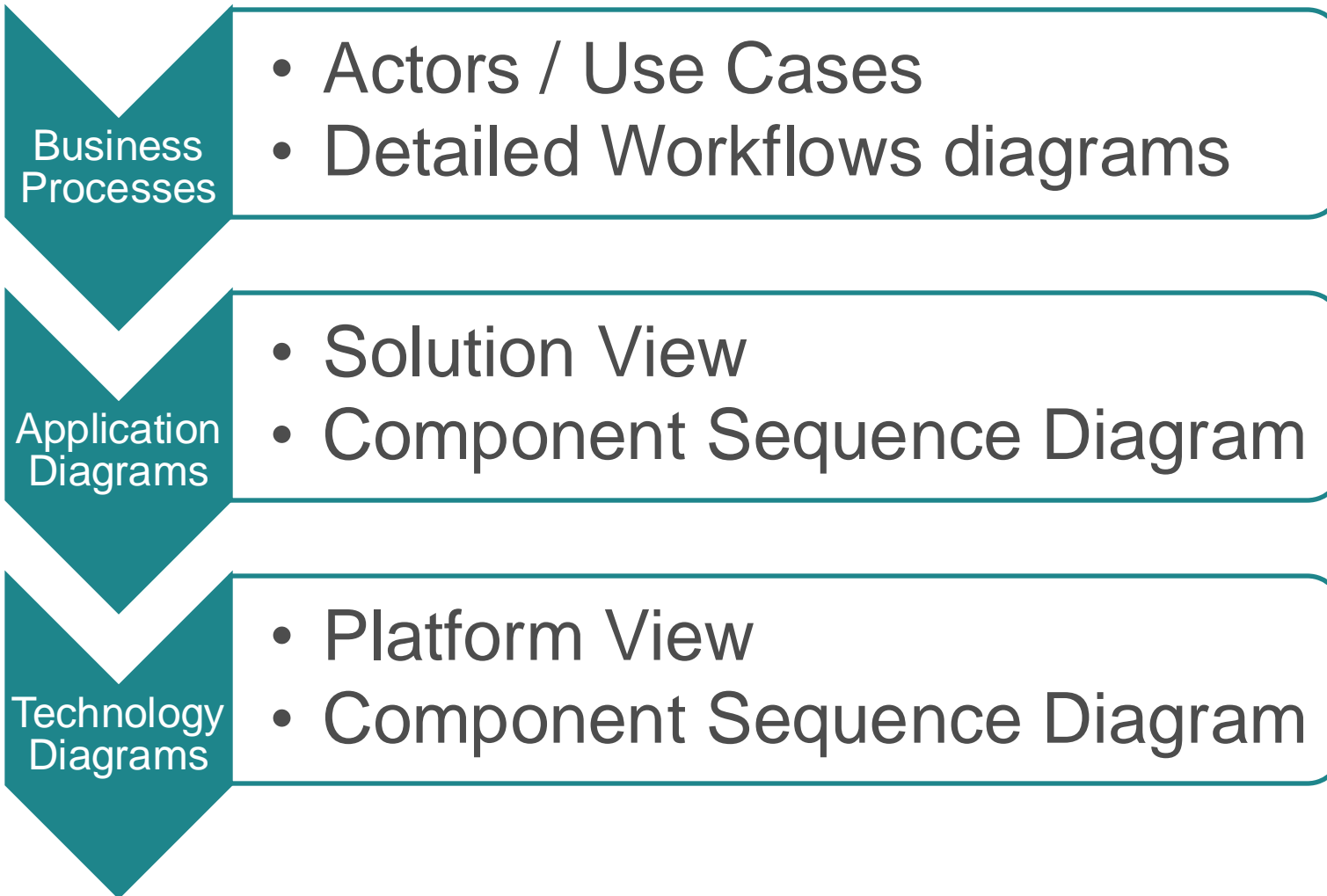
Tailored Simpl-Open Agent services aim to support standard data space/initiative processes effectively.



Typical Data Business Process:

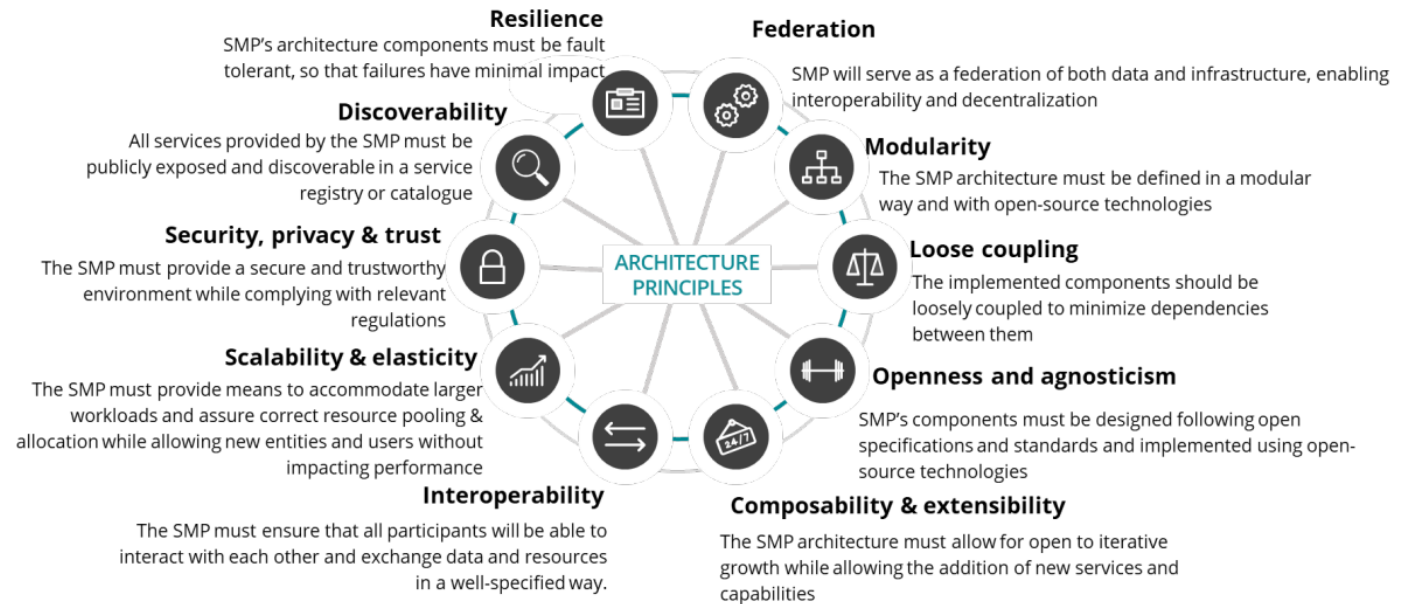
Facilitating data exchanges and other business processes across actors and their associated IT systems, utilizing the capabilities of the **Simpl-Open Agent** (use cases) to optimise business processes or any variations in terms of sequence or parameters. **Simpl-Open provides services tailored to data space/initiative needs** to support standard processes. However, an **individual data space/initiative retains the flexibility to create or modify any business process** between actors based on their specific requirements, utilising the **configuration or customisation options** provided by Simpl-Open.

Business Process driven approach



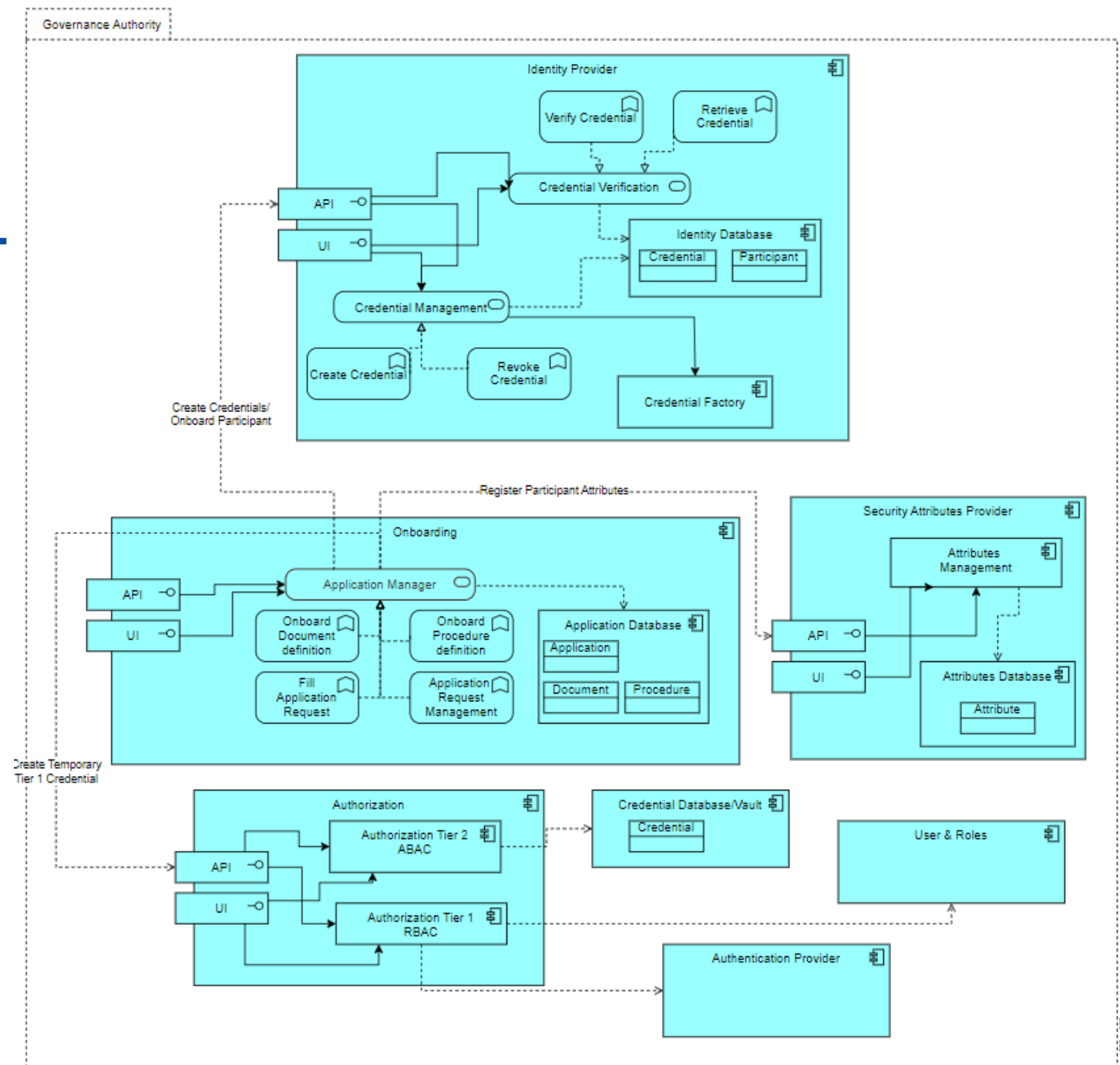
Architecture Views

- Archimate oriented / Draw.io
- Following 3 Levels: Business, Application, Technology
- Architecture Patterns



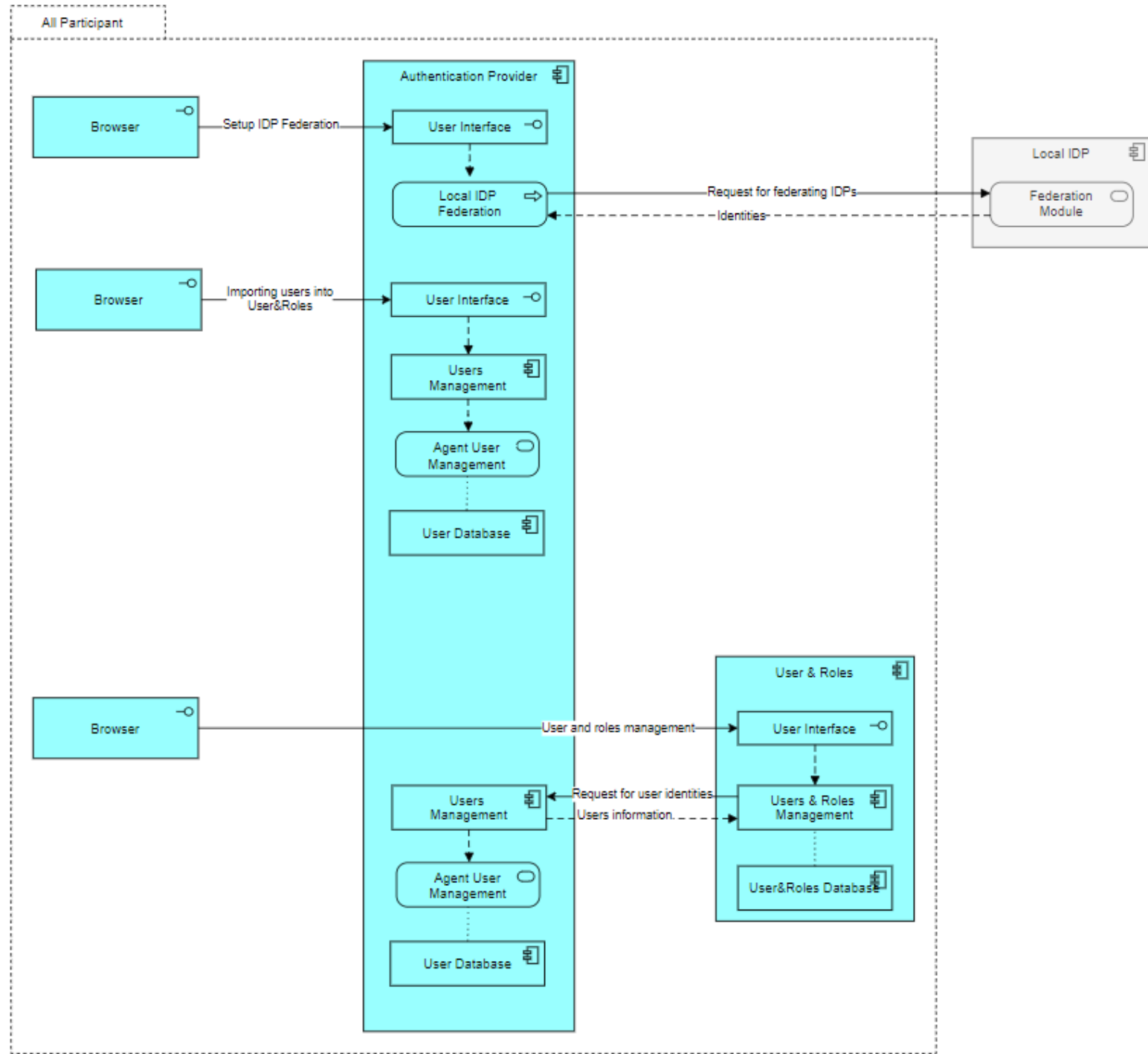
Example: Onboarding 1/4

Application Solution View



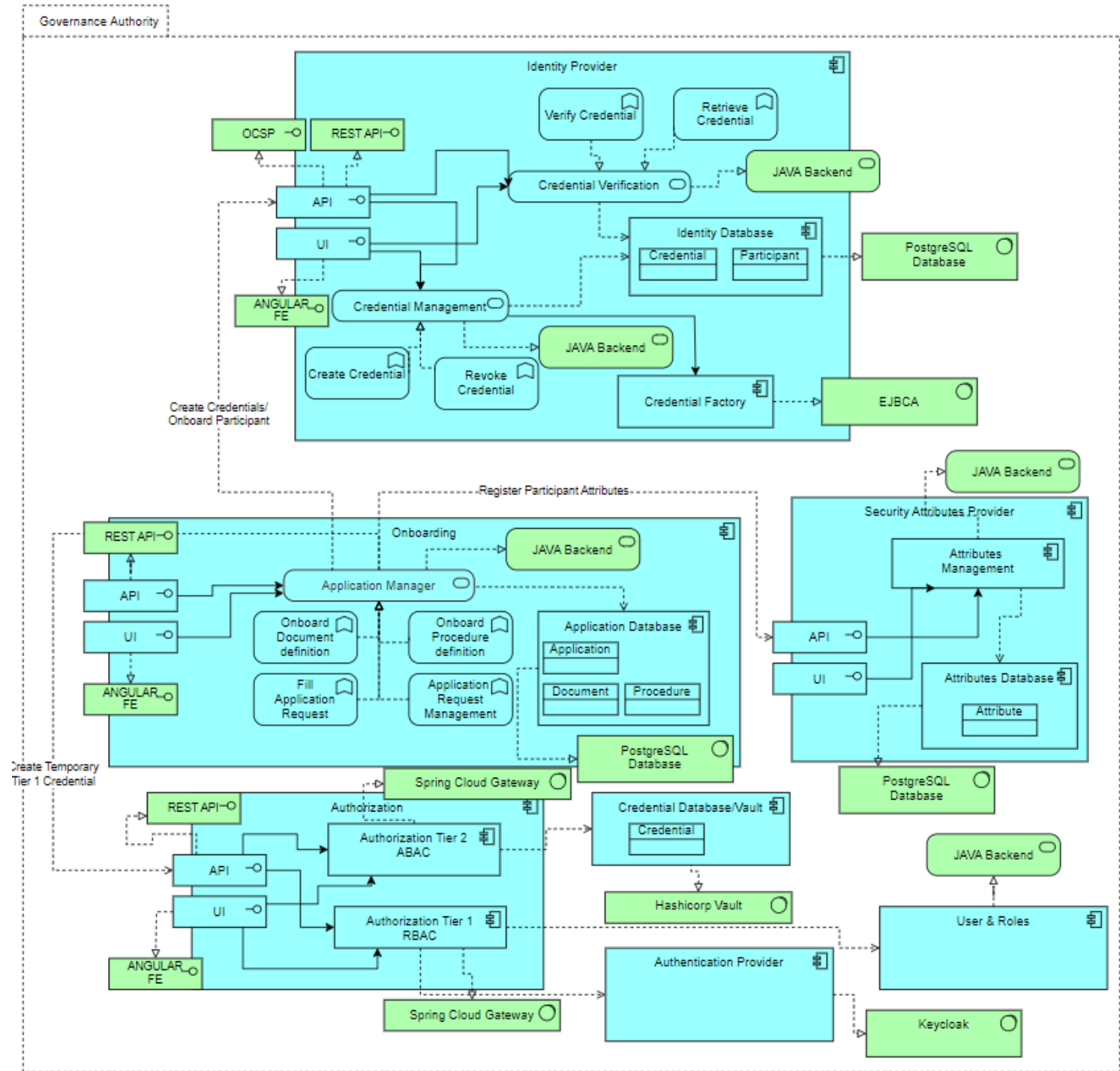
Example: Onboarding 2/4

Application Sequence View



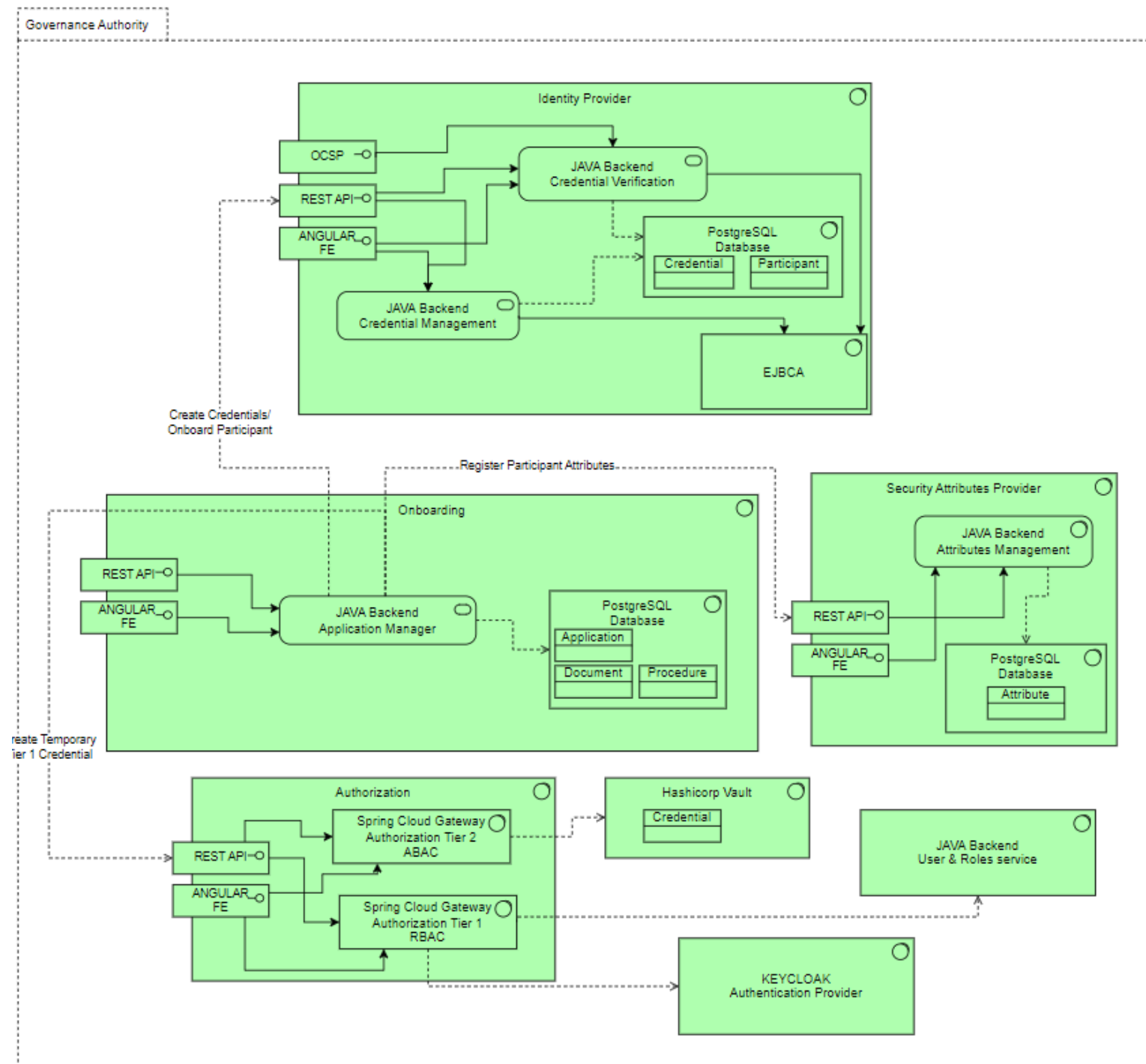
Example: Onboarding 3/4

Application / Technology Mapping View



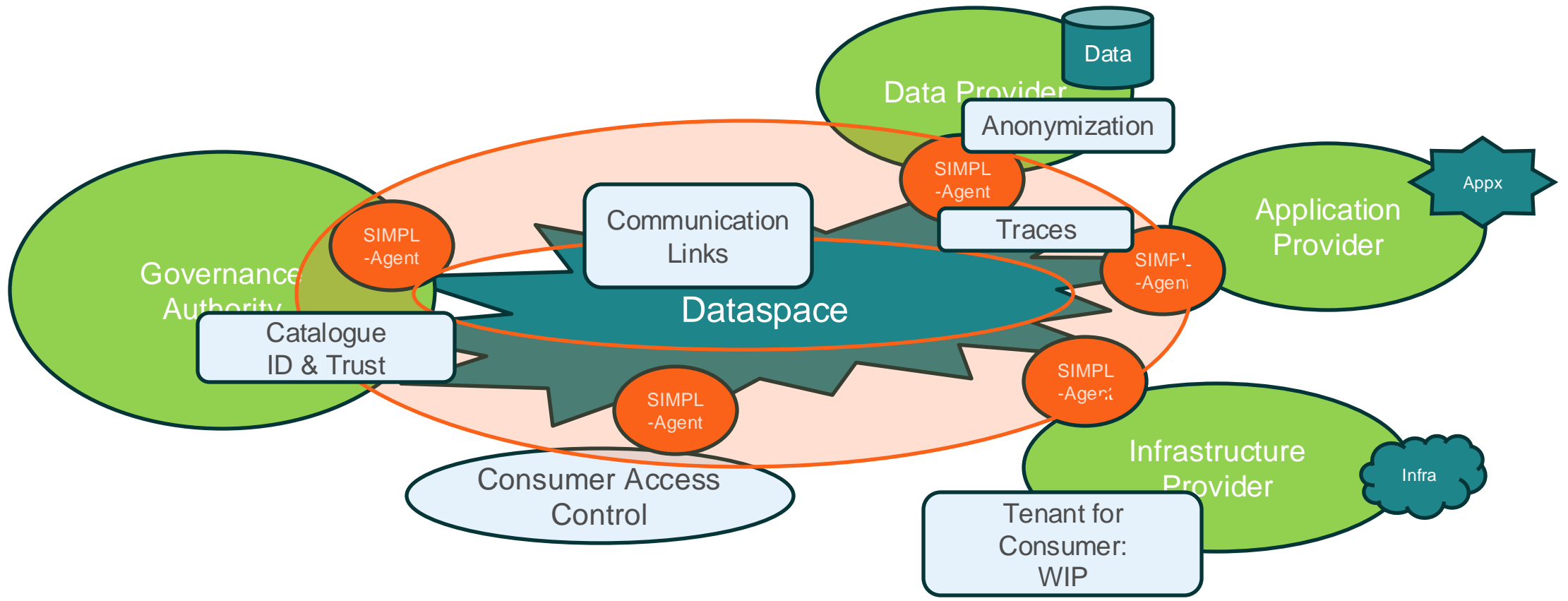
Example: Onboarding 4/4

Technology Platform View



Security and Privacy Aspect

Draft



Example of Capabilities enabling Security & Privacy requirements

Simpl-Open Capabilities view

Administration Services Access Control & Trust Policy enforcement Authentication provider federation Tier2 Option3 Authorization Tier2 Option3 Security attribute provider federation* Identity provider federation* User roles* Authorization Tier 1* Authentication provider federation Tier1* Authorization Tier2 Option1* Authentication provider federation Tier2 Options1* Authorization Tier2 Option2* Authentication provider federation Tier2 Options2*	Infrastructure Services Cloud Computing & Edge Computing Container provisioning <u>Serverless computing</u> Storage provisioning VM provisioning	Data services Application sharing Calculation algorithms Machine learning model Software, apps Data Discovery Data catalogue* Metadata description* Search engine*	Governance CSIRT Incident response Threat monitoring Support Helpdesk Support page Ticketing system
Audit Logging Audit*	HPC HPC Infrastructure Discovery Infrastructure Catalogue Metadata description Search engine	Data Governance Data lineage Data profiling Data quality rules*	
Contract Billing License asset management SLA Management Usage contracts	PaaS Services AI provisioning Analytics provisioning Blockchain Graph databases Messaging buses NoSQL databases SQL databases Time series databases	Data Processing Data analytics tools Data anonymisation Data visualisation	
Federation Management Federation orchestration	Supporting Distributed execution - Infrastructure Management Infrastructure orchestration*	Data Sharing Bulk data transfer Data store connector Data streaming Simple data transfer Supporting Data orchestration Distributed execution - Data distribution management	
Monitoring Application usage Energy metrics and alerts Infrastructure usage QoS metrics and alerts Usage policies Data usage* Performance monitoring and enactment*		Application Discovery Metadata description Application catalogue Search engine	
Reporting Energy efficiency/sustainability Exporting Performance Log info extraction* Platform usage*			
Supporting - Network Firewall VPN			
Security Encryption Guaranteed authenticity integrity			
Application Framework <u>Micro Frontend Framework *</u> API Gateway * Circuit Breaker * Policy Engine * Service Mesh * Configuration Service * Documentation *			

Update June 2024
 Capability for MVP – Partial Implementation

LEGEND
Capabilities beyond the tender baseline are underlined
 * Capabilities part of the Absolute MVP (AMVP)
 Capabilities delivered in year 1
 Capabilities delivered in year 2
 Capabilities delivered in year 3

Break

15.30 – 15.45

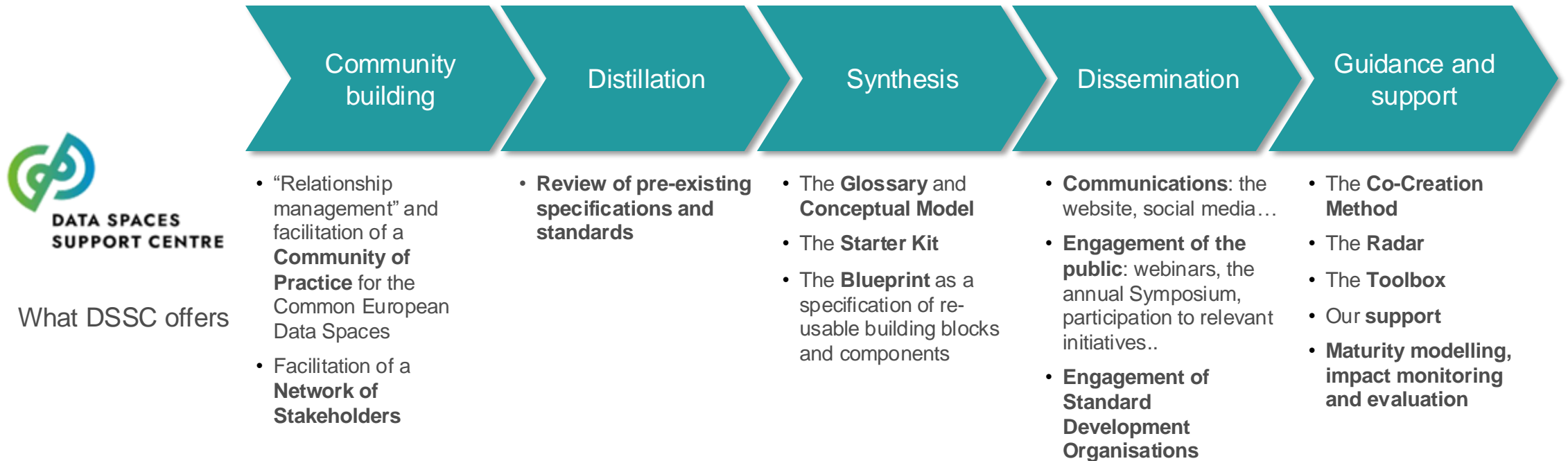
Early Technical Choices for Simpl Open (15:45 - 16:45)

Manuel Mateo Goyet
Saulo Sini

Moderator: Julio Morales Silva

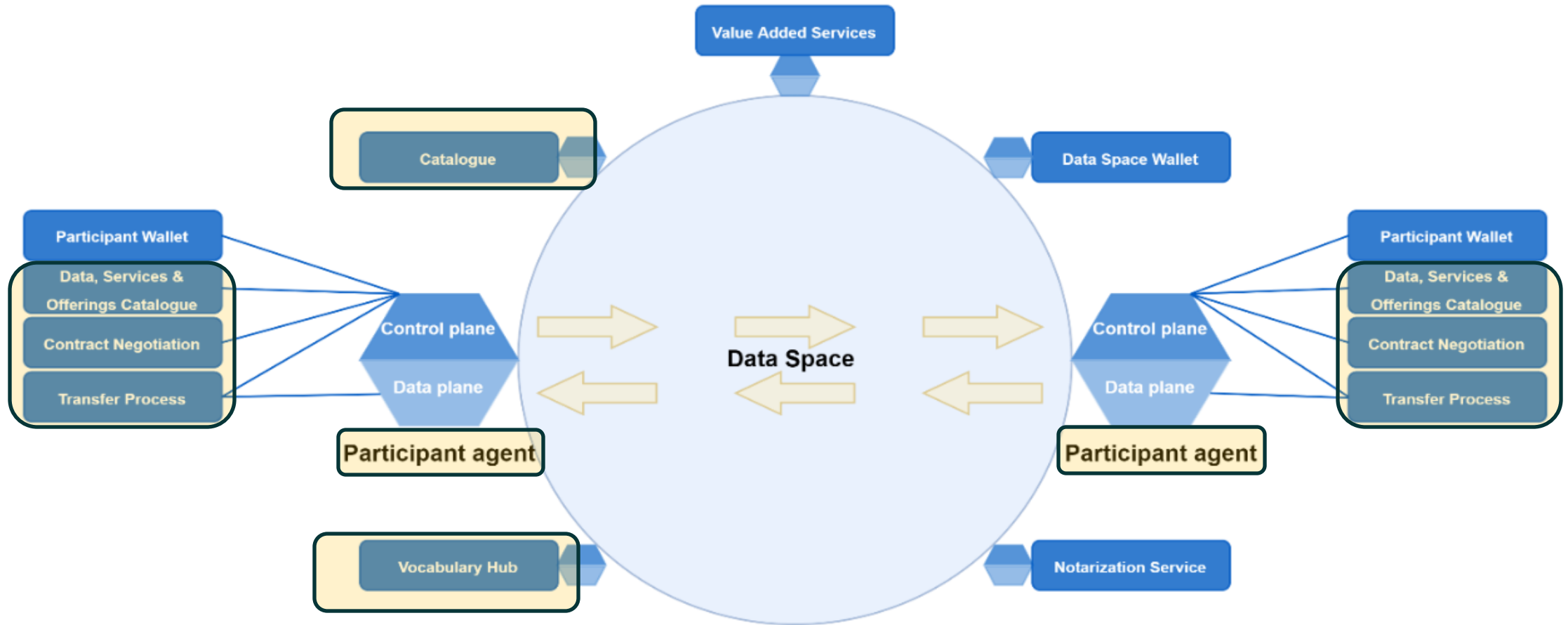
By being the voice of the community, DSSC is paving the way for Simpl

Since late 2022 the **Data Spaces Support Centre** has been collecting, distilling and offering back to the community of practice guidance and support for creating and participating to data spaces.



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

DSSC Toolbox – Reference Functional Model

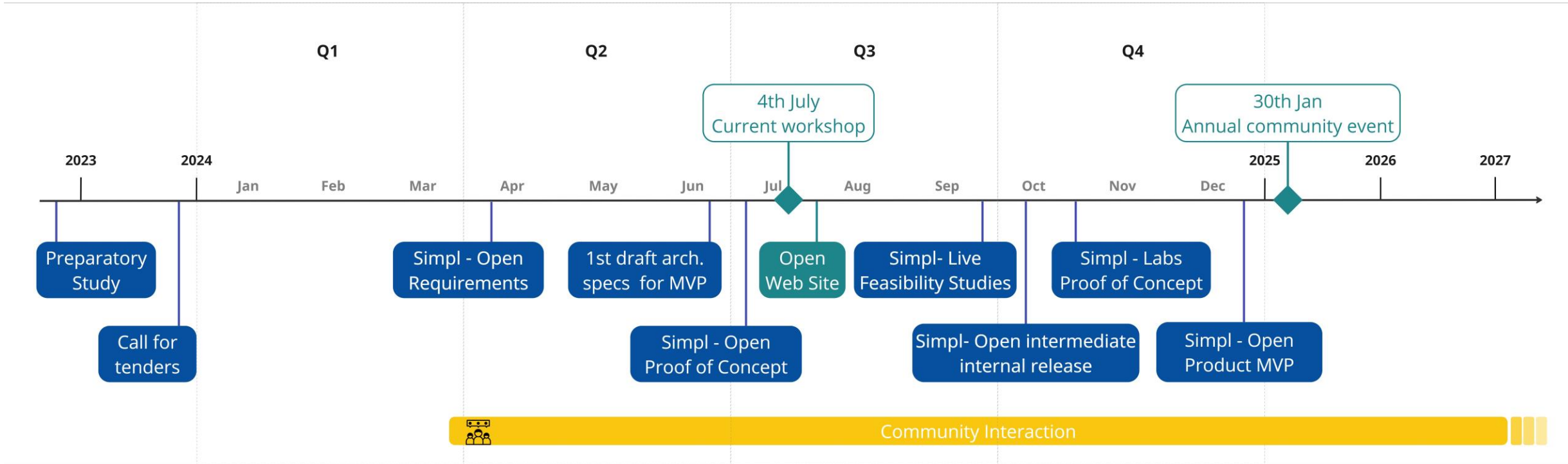


Simpl is aligned with specifications on **selected capabilities**

Questions for Integration

- How to improve **interoperability** across existing initiatives and players?
- How to reach a **convergence** towards “Industry” recognized **specifications**?
- How to foster **collaboration** towards a better specifications?

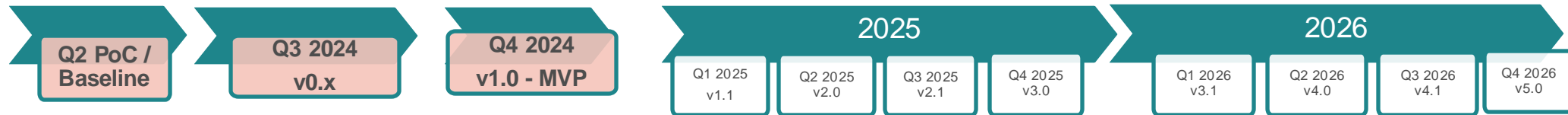
Simpl Programme 2024 – In Short



Compliance with Reference Standards

https://www.w3.org/	URL
Data Catalogue Vocabularies: W3C: DCAT	https://www.w3.org/TR/vocab-dcat-3/
Rights Definition Language: W3C: ODRL	https://www.w3.org/TR/odrl-model/
Semantic Standards: W3C: RDF	https://www.w3.org/TR/?tags[0]=data
Decentralized Identifier: W3C: DID	https://www.w3.org/TR/did-core/
Distributed Credential Validations: W3C: VC	https://www.w3.org/TR/vc-overview/
VC Data Model: W3C : VCDM	https://www.w3.org/TR/vc-data-model-2.0/

Intended scope for MVP (Dec 2024)



Underlined = Q3 Regular = Q4/MVP

Development following Business Processes capabilities:




- 1) Onboarding of participants
- 2) Catalogues: Infrastructure and Data Catalogue, Usage Policies, Quality rules
- 3) Add to catalogue (UI and API to be supported): Add Offering to the catalogue, Define access and usage policies, Extend validation (Syntax, Semantics, mandatory quality rules)
- 4) Search on Catalogue: Basic and extended search within a dataspace, through UI and API
- 5) Establish contract: Select resource and request to retrieve/use it. For the selected resource, establish a basic contract and ask consumer to agree on it (by signing it).
- 6) Use the resource: Infrastructure Deployment ; Dataset, applying rules and performing some type of data processing (e.g. Visualization)
- 7) Supporting Services: Secure communication between Simpl-Agents, Business Monitoring (logging all actions taken by users) – main metrics traced

Dataspace Landscape Initiatives



- Open-Source Projects
- Common Specifications & Interoperability
- Reusability for Simpl-Open




Industry Recognized OSS for MVP

Tool	Description	URL
	<p>The credential manager to store the Self Descriptions on organisational side. It also covers signing of Self Descriptions created by a provider, revoking a credential, verification and retrieval of credentials as microservices.</p>	<p>https://gitlab.eclipse.org/eclipse/xfsc/organisational-credential-manager-w-stack</p>
	<p>Reliably and securely take data from any source, in any format, then search, analyze, and visualize. This covers Monitoring, Reporting, Audit and Logging related functionalities.</p>	<p>https://www.elastic.co/</p>
	<p>Crossplane is an open-source Kubernetes add-on that allows to define and automate the infrastructure using Kubernetes-style configuration files. It extends the Kubernetes API to allow to provision and manage cloud resources and services from various providers, such as AWS, GCP, Azure, and more, in a unified manner. To manage Infrastructure Provider nodes.</p>	<p>https://www.crossplane.io/</p>

Main guidelines/criteria for choice: **License, Community, Extensibility, Documentation**



Sovereign X Proposal for MVP OSS: 1/2

Sovereign-X Proposal

Tool / Capability	Description	URL	Rationale	Additional Consideration
SD (GaiaX-Trustframework) SERVICE OFFERING 	Metadata of Participants and service offerings (App, Data, Infra) described as GAIA-X Self Description using an ontology	https://gaia-x.gitlab.io/policy-rules-committee/trust-framework/	Licence: Creative Commons Community Support: Gaia-X Functionality Coverage: Covers all aspects and can be easily enhanced for additional ones. Documentation Available: here Extensibility: yes Adoption by Business: Gaia-x Lighthouse , all data space initiatives claiming to be GAIA-X compliant	It can be easily enhanced with sectoral specific parameters. SD are the suitable “specification” for describing Catalogue Objects in Simpl Implementation since they are: <ul style="list-style-type: none"> • Machine Readable • Allows Issuer to sign them • Allows Consumer (Verifier) to verify them (SSI) • Semantically described (JSON-LD)
XFSC SD Tooling SERVICE OFFERING 	Tooling to create and manage meta data to describe the service offerings (Data, App, Infrastructure)	https://gitlab.eclipse.org/eclipse/xfsc/self-description-tooling	Licence: Apache 2.0 Community Support: XFSC Functionality Coverage: full coverage Documentation Available: yes Extensibility: yes Adoption by Business: TrustedCloud (Spec)	No other FOSS tool available to create customized SD. Schemas can be created via LinkML Generator Tool Fully customizable SD definitions possible.
XFSC Federated Catalogue CATALOGUE 	Federated Catalogue providing Discovery capability to look up on Self Descriptions of service offerings (Data, App, Infrastructure)	https://gitlab.eclipse.org/eclipse/xfsc/cat	Licence: Apache 2.0 Community Support: XFSC Functionality Coverage: very high coverage Documentation Available: Web , PDF Extensibility: yes Adoption by Business: Gaia-x Lighthouse <i>XFSC: Gaia-X Federation Services (GXFS) provides a set of OSS software components that assist in operationalizing a Gaia-X compliant federated ecosystem of infrastructure and data</i>	The only implementation of a FOSS federated catalogue supporting SD. i.e. validation of SD when published and searching for SD providing an internal search engine. It also already support semantic validation. In addition, the search engine is based on NoSQL which provides the base for knowledge search needed for M2M use cases.

Sovereign X Proposal for MVP OSS: 2/2

Sovereign-X
Proposal

Tool /Capability	Description	URL	Rationale	Additional Consideration
<p>XFSC OCM</p> <p>SERVICE OFFERING</p> 	<p>The credential manager to store the Self Descriptions on organisational side. It also covers signing of Self Descriptions created by a provider, revoking a credential, verification and retrieval of credentials as microservices.</p>	<p>https://gitlab.eclipse.org/eclipse/xfsc/organisational-credential-manager-w-stack</p>	<p>Licence: Apache 2.0 Community Support: XFSC Functionality Coverage: high Documentation Available: Web Extensibility: yes Adoption by Business:</p>	<p>They are created as part of XFSC matching the needs best. Can be easily replaced with any other wallet solution providing the same protocols in exchanging credentials (OIDC4VP and OIDC4VC)</p>
<p>EDC Connector</p> <p>SERVICE CONSUMPTION</p> 	<p>The data exchange service implementing the negotiation protocol (data space protocol)</p>	<p>https://projects.eclipse.org/projects/technology.edc</p>	<p>Licence: Apache 2.0 Community Support: Tractus-X and EDC. Functionality Coverage: Dataspace Protocol, Data&Control-Plane, Policy-Engine, Contract Negotiation Documentation Available: Tractus-X and EDC</p> <p>Extensibility: well structured interfaces to customize component</p> <p>Adoption by Business: Catena-X, Eona-X, several other data initiatives using forks of it.</p>	<p>Can be replaced with any other IDS connector implementing the IDSA Dataspace Protocol and using ODRL expressions for policy . The EDC connector is chosen because it has a good documentation, provides good interfaces and can be easily customized. Second there are two joined active communities to drive the development: Tractus-X and EDC.</p> <p>In addition, the first IDS connector passing the IDSA certification (RAMv4) was the TSI connector (Not open-source) based on EDC.</p> <p>Another interesting package IDSA compliant is the True-Connector https://github.com/Engineering-Research-and-Development/true-connector?tab=readme-ov-file</p>

Areas that require new developments for the MVP

Domain of new development	Tools and Open Source
Infrastructure Services Offering (IaaS and PaaS) multi-cloud providers	Crossplane / and adaptation / extension of the current definition of SD
2 Tiers Identification, Authentication, Authorization for Machine and Human Users	Keycloak
Extensible Observability (Logging, Monitoring, Reporting, Audit)	ELK stack
Billing / Invoicing related implementation	Custom development
Contracts related implementation	Custom development
Dataspace specific needs	Under investigation
Consent Management	Potential Custom development
...	...

Simpl-Live: Mood at half-way

(16:45 - 17:40)

Ralf Resch

Daniel Gonzalez

Our session today

1

Expectations & scope:

- Present state of play of Simpl-Live
- Receive feedback from the data spaces
- Discuss with other data spaces about Simpl-Live methodology

2

Simpl-Live Data Spaces/ Initiatives 2024:



PPDS



DestinE



EOSC



SCDS



EHDS2



LDS

3

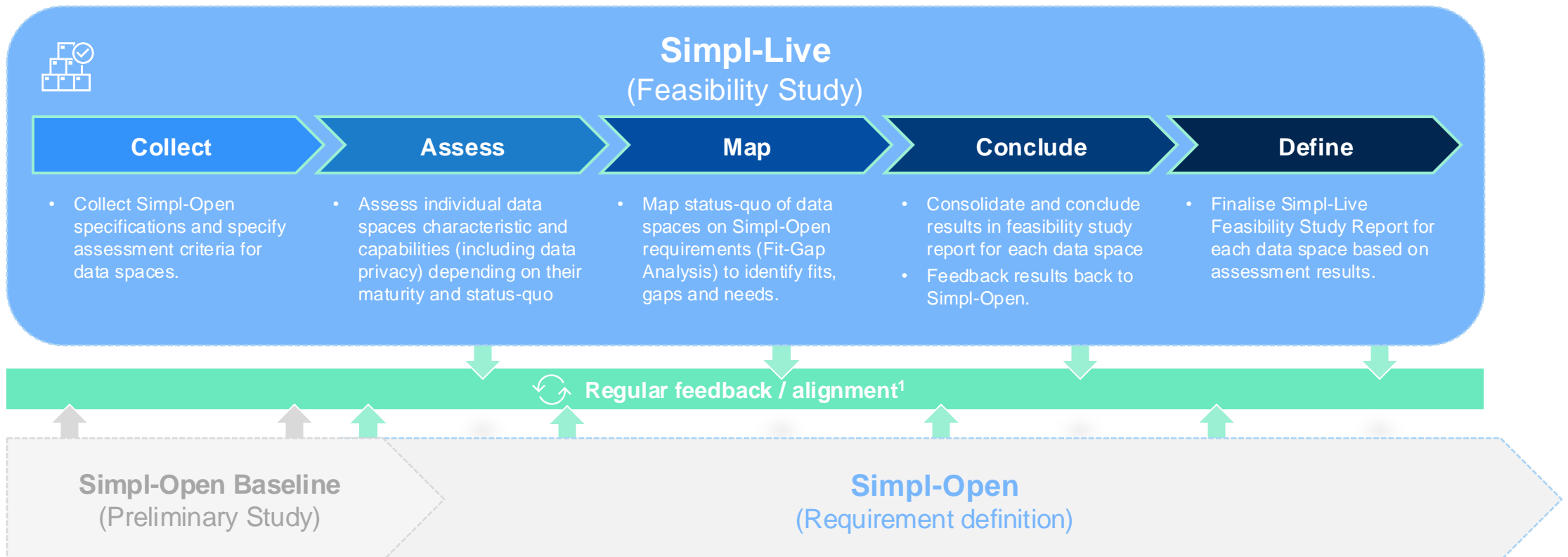
Agenda:

- 05 min • Introduction
- 10 min • State of play
- 30 min • Data Spaces/Initiatives' reflections on Simpl-Live
- 10 min • Closing

Simpl-Live Feasibility Study State of Play

Simpl-Live methodology

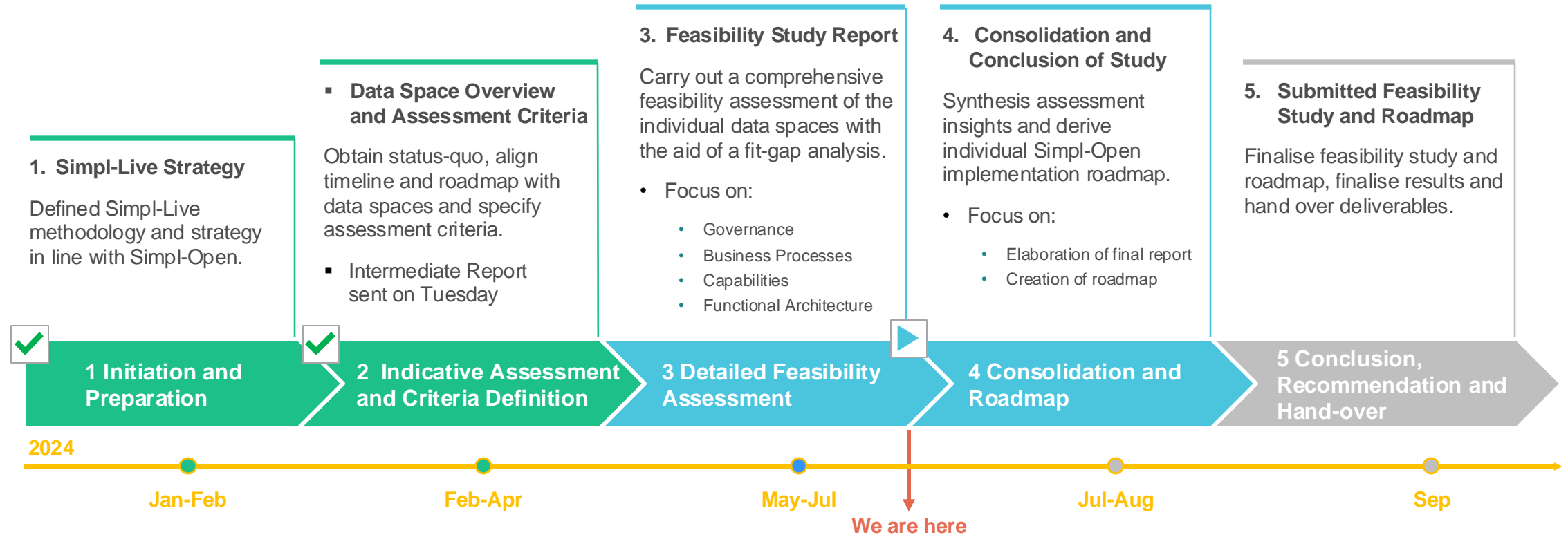
Simpl-Live study is facilitated through regular alignments with Simpl-Open.



¹Regular alignment with and feedback to Simpl-Open: (1.) to update the Simpl-Live assessment criteria if required, based on the simultaneously defined Simpl-Open requirements, (2.) to refine Simpl-Open requirements definition based on (interim) assessment results.

Simpl-Live feasibility study roadmap

The Simpl-Live roadmap comprises five successive steps that are driven by the overall methodology.



Simpl-Live Feasibility Study current findings

General Findings across all Data Space Initiatives

- The methodology facilitates the identification of the **priorities of Data Spaces' business processes** in the scope of Simpl-Open, supporting the **demand-driven development of capabilities and services**.
- Although different in focus, we have identified **similar interests and needs between the Data Spaces**, helping to validate the prioritisation of the Simpl-Open development.
- The feasibility study report helps to **bridge the gap between the theoretical concept of Simpl-Open and its practical testing** and possible implementation of capabilities and services with its **MVP** towards the end of 2024.

What comes next...

- An **Integration Roadmap** with focus on prioritised **Business Processes** of Simpl-Open MVP and **capabilities**.
- A **FAQ and Glossary** for the Data Spaces helping to increase **understanding of Simpl-Open**.
- A **well-structured methodology** for **additional data spaces**, paving the way for continuous validation and refinement of Simpl-Open.

...based on these findings, and our work together during the last months, we want to get your feedback...

Data Spaces' Reflections on Simpl-Live

The data spaces share their experiences

We seek your feedback on Simpl-Live along three key questions.



1 Expectations

Could you please share your **expectations for the Simpl-Live Feasibility Study** and let us know if they have been met so far? If not, kindly explain why.



2 Recap

Looking back, are there any **aspects that you feel are missing or that you would change** to make the Feasibility Study more satisfactory for you?



3 Looking Forward

Looking ahead, would you appreciate any **changes regarding way-of-working in the coming weeks** and months to ensure the satisfactory result Feasibility Report for you?

Methodology:

- Each data space/initiative will have to comment on the three questions
- Order of answering: SCDS, DestinE, EHDS2, PPDS, EOSC, LDS

Recap and closing

Wrap up

Manuel Mateo Goyet

Thank you