



gaia-x

Track 2 – Service & Tool Support Onboarding Presentation

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Martin Pilka, Kai Meinke



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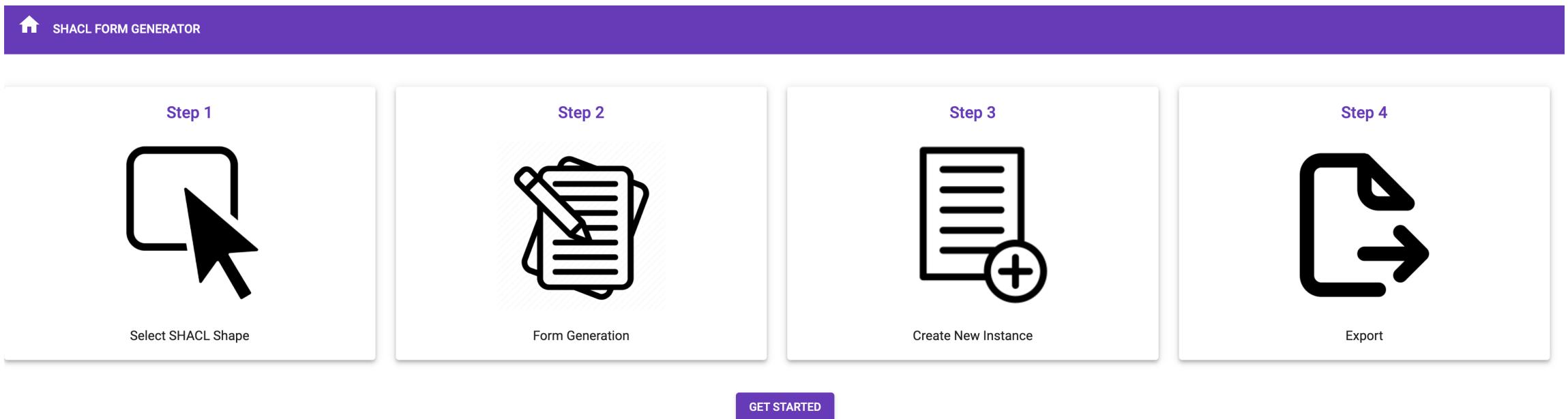
01

SD Toolkit Demonstration

Johannes Theissen-Lipp

01 – Self-Description Toolkit Demonstration

- Demonstrate the Self-Description Creation and Validation UI (currently under development)



The screenshot displays the "SHACL FORM GENERATOR" interface, which consists of four sequential steps:

- Step 1:** Select SHACL Shape. It features a large icon of a cursor pointing at a button and the text "Select SHACL Shape".
- Step 2:** Form Generation. It features an icon of a clipboard with a pen and the text "Form Generation".
- Step 3:** Create New Instance. It features an icon of a document with a plus sign and the text "Create New Instance".
- Step 4:** Export. It features an icon of a document with an arrow and the text "Export".

A purple navigation bar at the top contains a home icon and the text "SHACL FORM GENERATOR". A "GET STARTED" button is located at the bottom center of the interface.



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02

Gaia-X Lab Demonstration Trust Framework

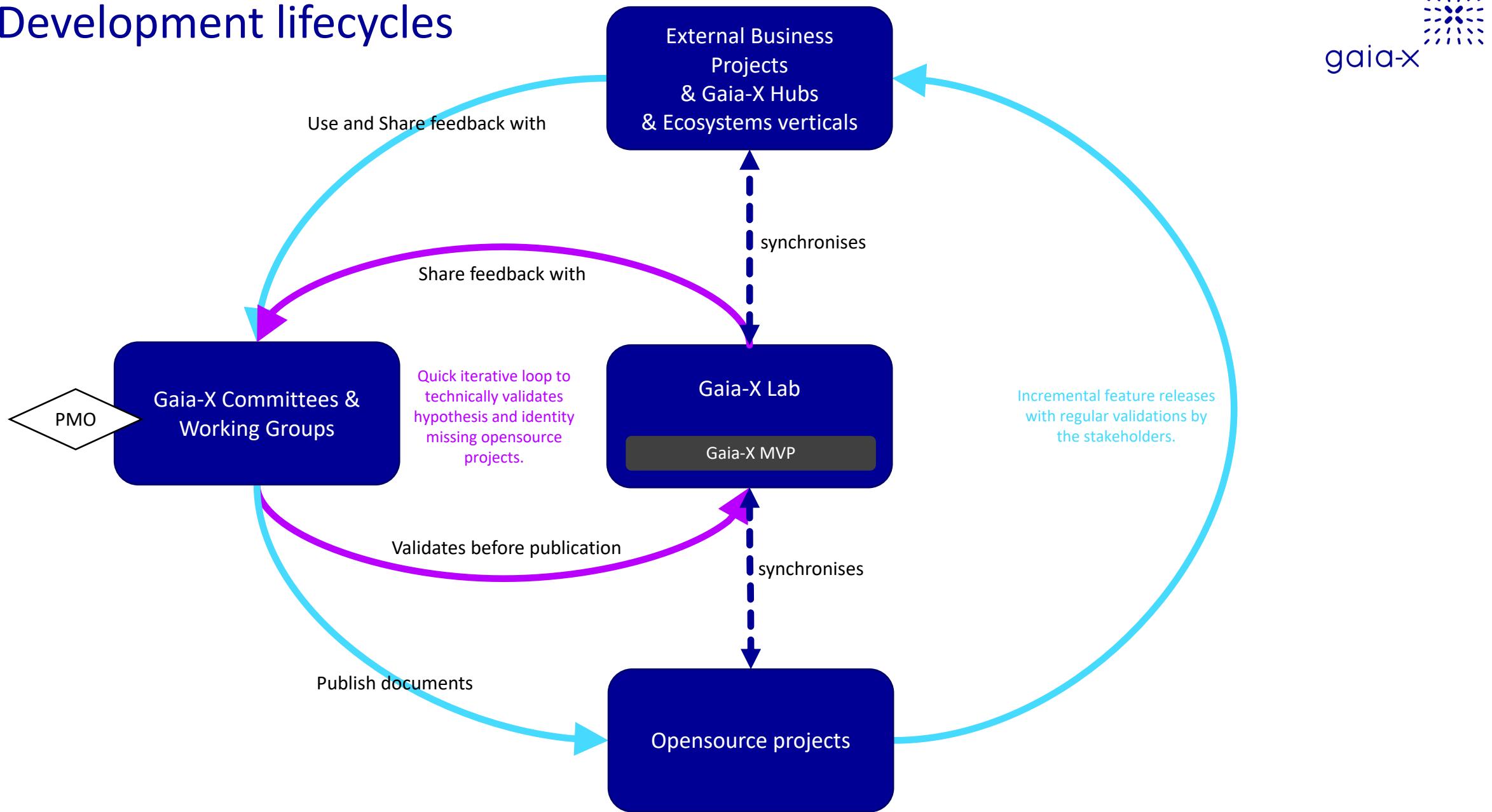
Kai Meinke

02 - Gaia-X Lab Demonstration Trust Framework



- Introduction to the work of the Gaia-X Lab and relation to the Gaia-X Trust & Compliance Framework and working groups.
- Demonstration of Trust & Compliance workflow from anchoring and issuance of Gaia-X participant credentials to verification of verifiable presentations
- Using SSI & OIDC4VP/SIOPv2 and DID:WEB to issue, hold an verify Gaia-X participant Credentials
- Demonstration of the Gaia-X Registry

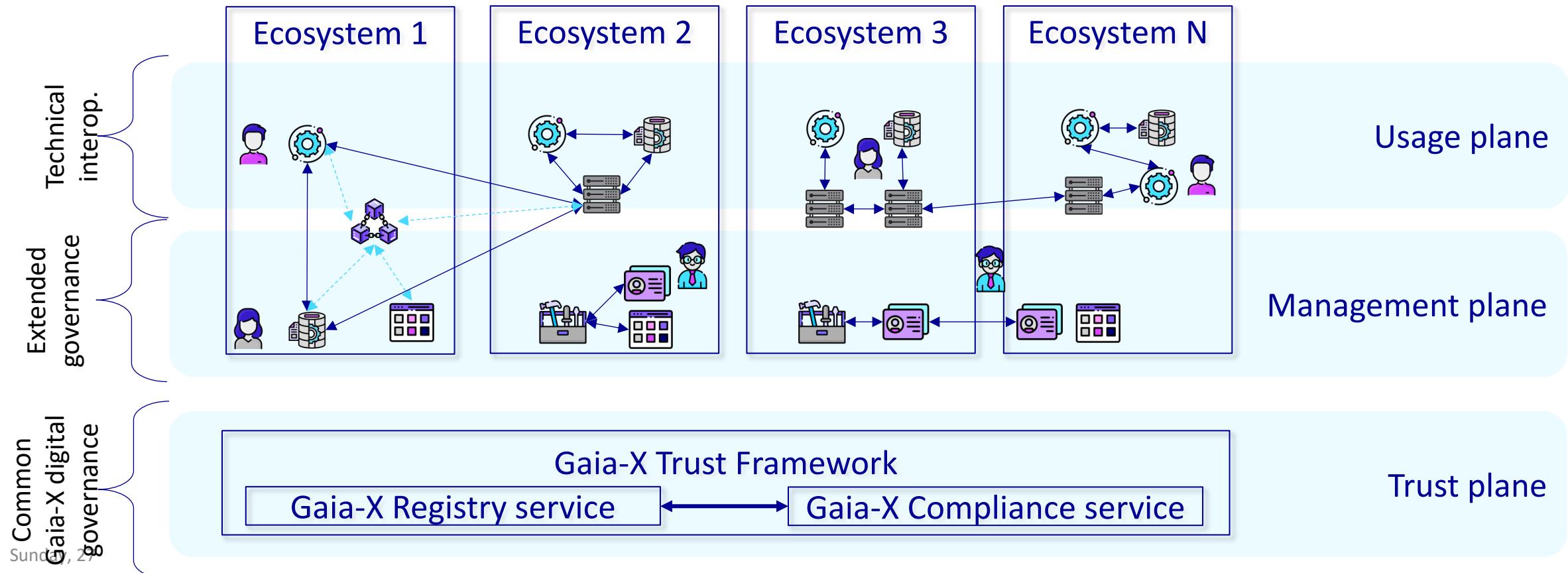
Development lifecycles



One Gaia-X Ecosystem, federating interoperable autonomous ecosystems.



- Gaia-X Ecosystem: the virtual set of Participants, Service Offerings, Resources fulfilling the requirements of the Gaia-X Trust Framework.



Gaia-X Lab Onboarding Demonstrator



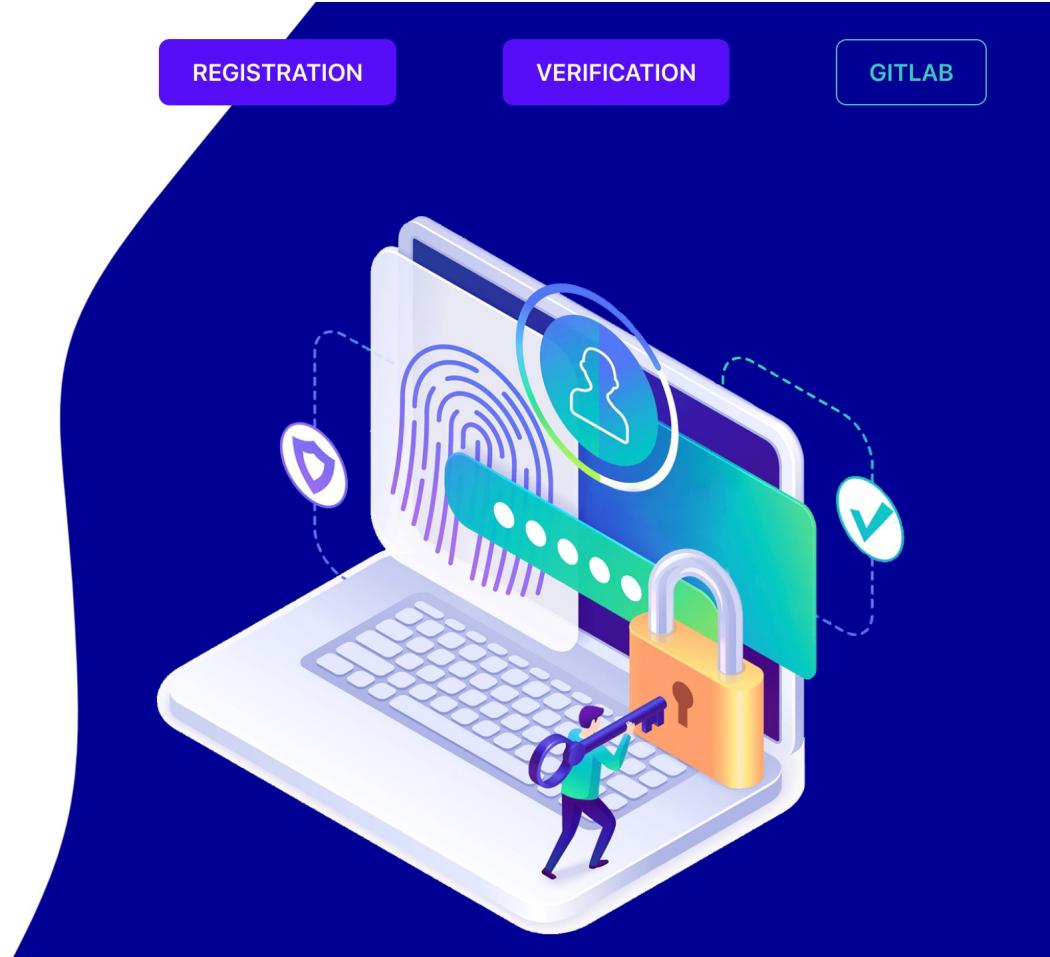
Gaia-X Lab

Onboarding Portal

This web app demonstrates how SSI could be used to issue Gaia-X participation credentials in a way that is cryptographically secure, privacy-respecting, and machine-verifiable.

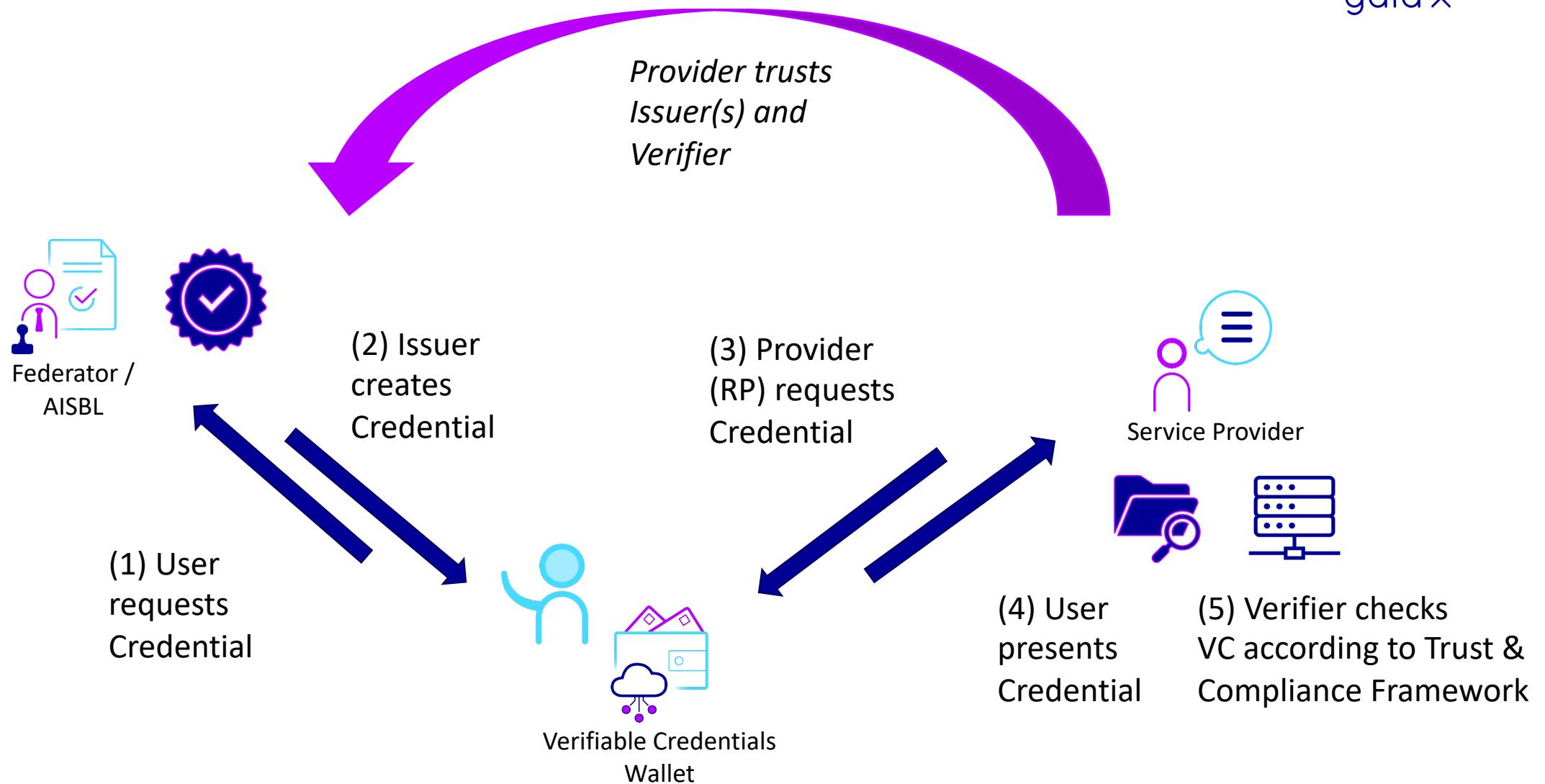
[REGISTER CREDENTIAL](#)

[VERIFY CREDENTIAL](#)



Demonstrator: <https://onboarding-portal.lab.gaia-x.eu/>
Repositories: <https://gaia-x.atlassian.net/browse/LAB>

Summary – Triangle of Trust



Gaia-X Lab Onboarding Demonstrator



gx-registry 1.0.0 OAS3

Gaia-X Lab Registry

Apache 2.0

Trust Anchor Endpoints to interact with registered trust anchors

3. List of defined trust anchors

Name	Defined as
State	<p>The Trust Service Providers (TSP) must be a state validated identity issuer.</p> <ul style="list-style-type: none"> - For <code>participant</code>, if the <code>legalAddress.country</code> is in EEA, the TSP must be eiDAS compliant. - Until end of 2022 Q1, to ease the onboarding and adoption this framework DV SSL can also be used. - Gaia-X association is also a valid TSP for Gaia-X association members.
eiDAS	<p>Issuers of Qualified Certificate for Electronic Signature as defined in eiDAS Regulation (EU) No 910/2014</p> <p>(homepage: https://esignature.ec.europa.eu/efda/tl-browser/#/screen/home)</p> <p>(machine: https://ec.europa.eu/tools/lotl/eu-lotl.xml)</p>
DV SSL	<p>Domain Validated (DV) Secure Sockets Layer (SSL) certificate issuers are considered to be temporarily valid Trust Service Providers.</p> <p>(homepage: https://wiki.mozilla.org/CA/Included_Certificates)</p> <p>(machine: https://ccadb-public.secure.force.com/mozilla/IncludedCACertificateReportPEMCSV)</p>
Gaia-X	<i>To be defined after 2022Q1.</i>
EDPB CoC	<p>List of Code of Conduct approved by the EDPB</p> <p>(homepage: https://edpb.europa.eu/our-work-tools/documents/our-documents_fr?f%5B0%5D=all_publication_type%3A61&f%5B1%5D=all_topics%3A125)</p>
gleif	<p>List of registered LEI issuers.</p> <p>(homepage: https://www.gleif.org/en/about-lei/get-an-lei-find-lei-issuing-organizations)</p> <p>(machine: https://api.gleif.org/api/v1/registrationAuthorities)</p>



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03

Gaia-X Lab Deployment of Issuer,
Wallet and Verifier

Albert Peci, Moritz Kirstein

03 - Deployment of Issuer, Wallet and Verifier



- **Session:** Guidance & Deployment of necessary components (verifier, wallet, issuer) using Kubernetes for issuance and verification of credentials using OIDC4VP/SIOPv2
- **Goals:**
 - Deploy the demonstration cloud wallet
 - Deploy the demonstration issuer component
 - Deploy the demonstration verifier components
 - Using your Kubernetes infrastructure for issuance and verification of credentials

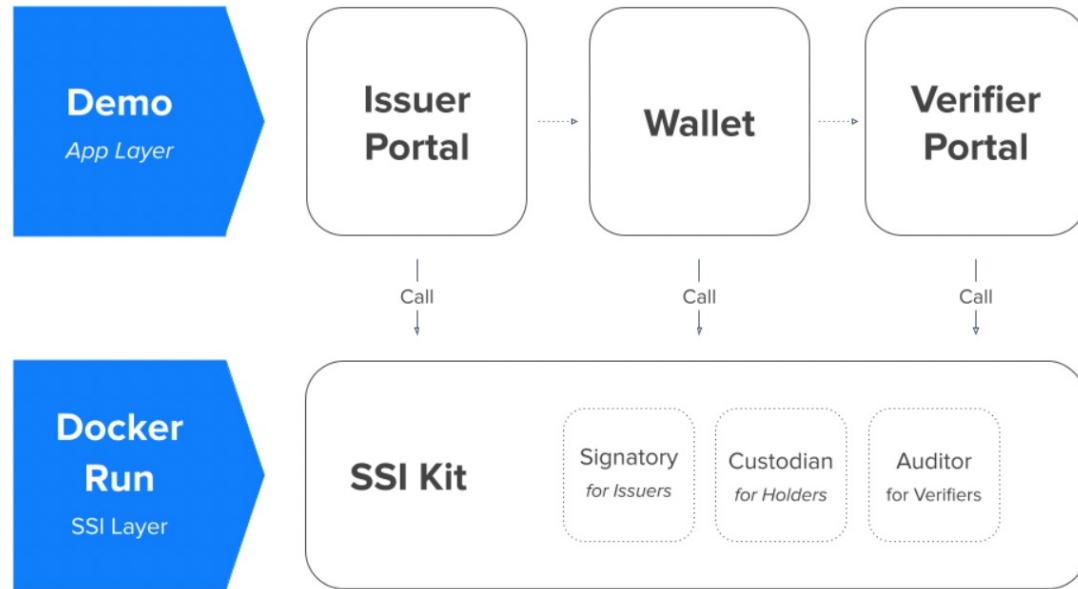
Walt.id SSI KIT

```

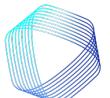
59     ---          114
60     kind: Deployment        kind: Deployment
61     apiVersion: apps/v1      apiVersion: apps/v1
62     metadata:                metadata:
63       name: gaiax-portal-backend
64     spec:                    spec:
65       replicas: 1            replicas: 1
66       selector:              selector:
67         matchLabels:         matchLabels:
68           app: gaiax-portal-backend
69       template:              template:
70         metadata:             metadata:
71           labels:              labels:
72             app: gaiax-portal-backend
73           annotations:         annotations:
74             deployment/id: "_DEFAULT_DEPLOYMENT_"
75         containers:           containers:
76           - name: gaiax-portal-backend
77             image: waltid/gaiax-portal-backend:_VERSION_TAG_
78             volumeMounts:
79               - mountPath: "waltid/wallet/config"
80                 mountPath: "waltid/wallet/config"
81                 readOnly: true
82               - mountPath: "waltid/wallet/data"
83                 name: wallet-data
84             env:
85               - name: WALTID_DATA_ROOT
86                 value: "/waltid/wallet"
87               - name: WALTID_WALLET_BACKEND_BIND_ADDRESS
88                 value: "0.0.0.0"
89               - name: WALTID_WALLET_AUTH_SECRET
90                 value: 6b218176-d8f3-4a58-83db-fd328defc30f
91             ports:
92               - containerPort: 8080
93                 name: http-api
94
95
96
97
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Custom Configs: <https://gitlab.com/gaia-x/lab/compliance/ssi-backends/waltid-ssi-backend/-/blob/master/k8s/deployment-gaiax.yaml>



Documentation: <https://docs.walt.id/ssikit/>
 GitHub Repos: <https://github.com/walt-id>
 SSI backend: <https://github.com/walt-id/waltid-wallet-backend>





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04

Utilize Hyperledger Aries for SD-Trust Issuance

David Suba, Martin Pilka, Matej Feder

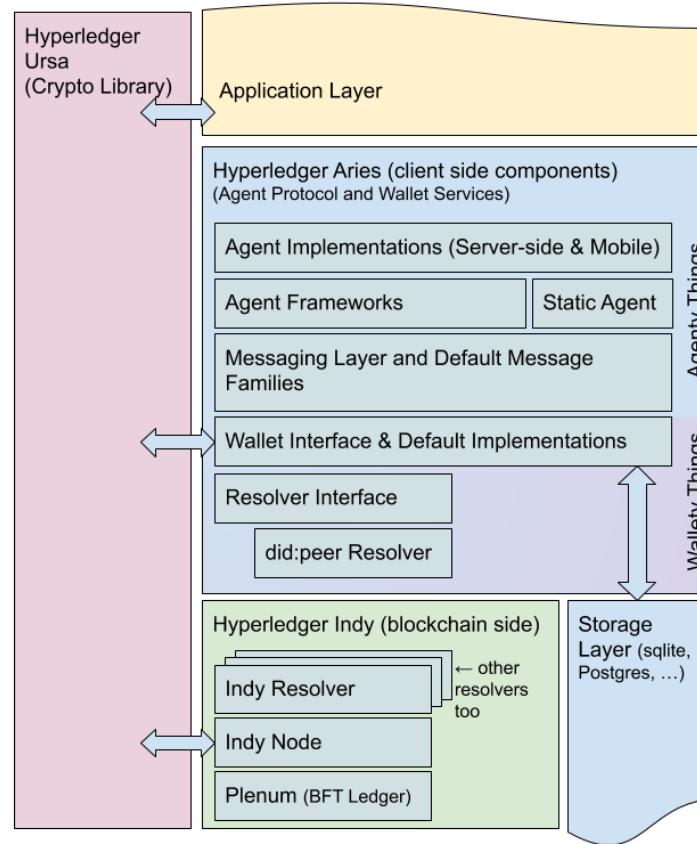
04 - Utilize Hyperledger Aries for SD-Trust Issuance



- **Session:** Create an easy to use CLI (API) tool that interacts with components of open-source Verifiable Credential framework - Hyperledger Aries Cloud Agent and allows issuing, storing and verifying credentials for Self-Descriptions.
- **Goals:**
 - Use Hyperledger Aries for issuance and validation of credentials for SD
 - Create tool that hides the complexity of HA usage behind simple CLI (API)

Hyperledger Aries

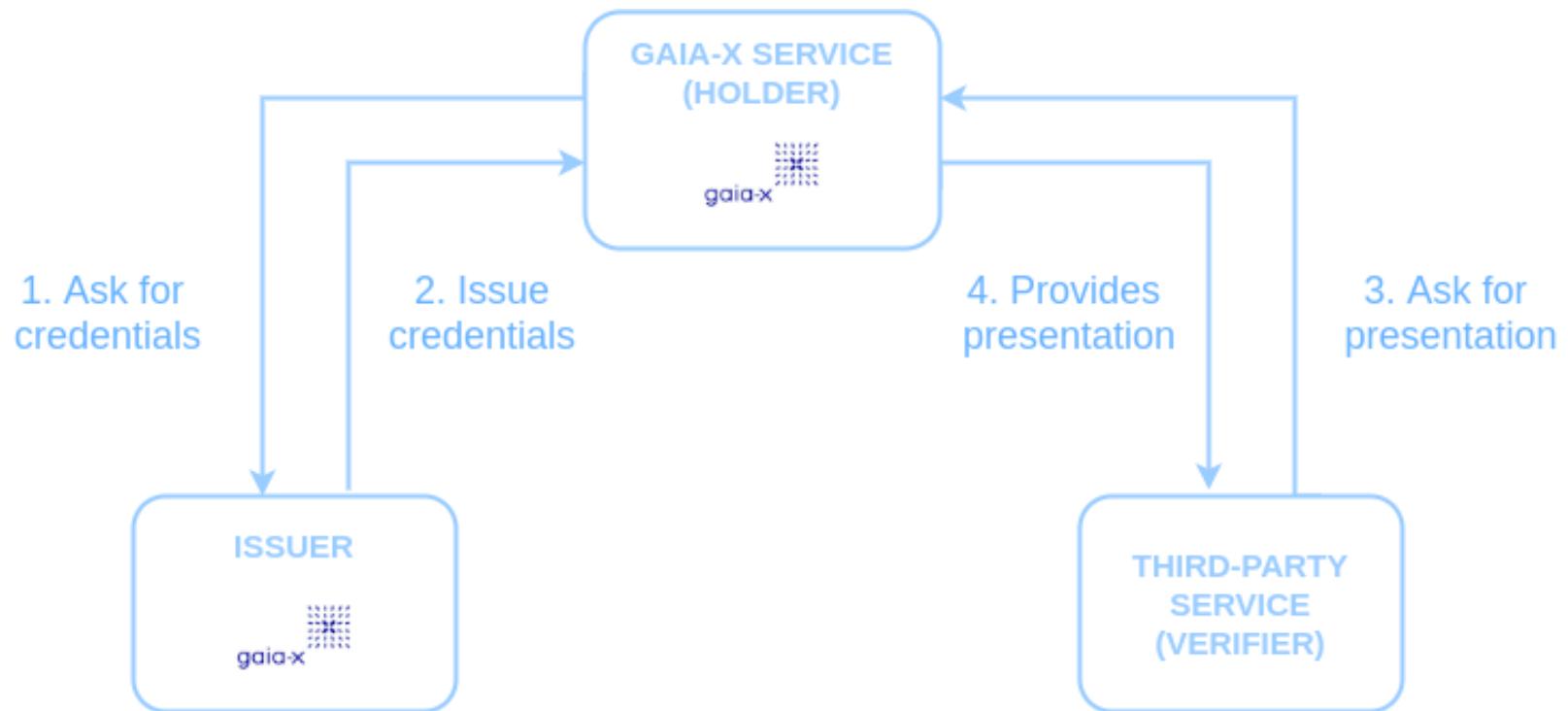
Hyperledger as a Verifiable Information Exchange Platform



[Source](#)

- Open source, community supported project, focusing on creating, transmitting and storing verifiable credentials

Gaia-X Use Case



Important Links



- [Milestone with issues](#)
- [Code repository](#)



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05

Credential Bridge

Theo Dimitrakos, Bithin Alangot, Ali Hariri,
Amjad Ibrahim

- **Session:** Build a Credential Bridge middleware that can do a semantically correct transformation of credentials and federation protocols into a decentralized identity fabric.
- **Goals:**
 - Creating a credential bridge middleware that enables a cost-efficient bridging between different types of credentials in a federation.

05 - Credential Bridge



- **Context:** To support both legacy identity federation and decentralized identities (DID) such as SSI [Gaia-X IAM Framework v 1.3 Section 5.1]
 - The federated trust model follows a layered approach. The participants rely on selected identity networks for mutual authentication and trust establishment at participant layer (SSI recommended for interoperability) and use their existing identity system at the principal layer.
 - For example, the participants bootstrap with a federated identity system based on OpenID connect/OAuth for their principals and use DID and DID Documents to identify itself within the federation.

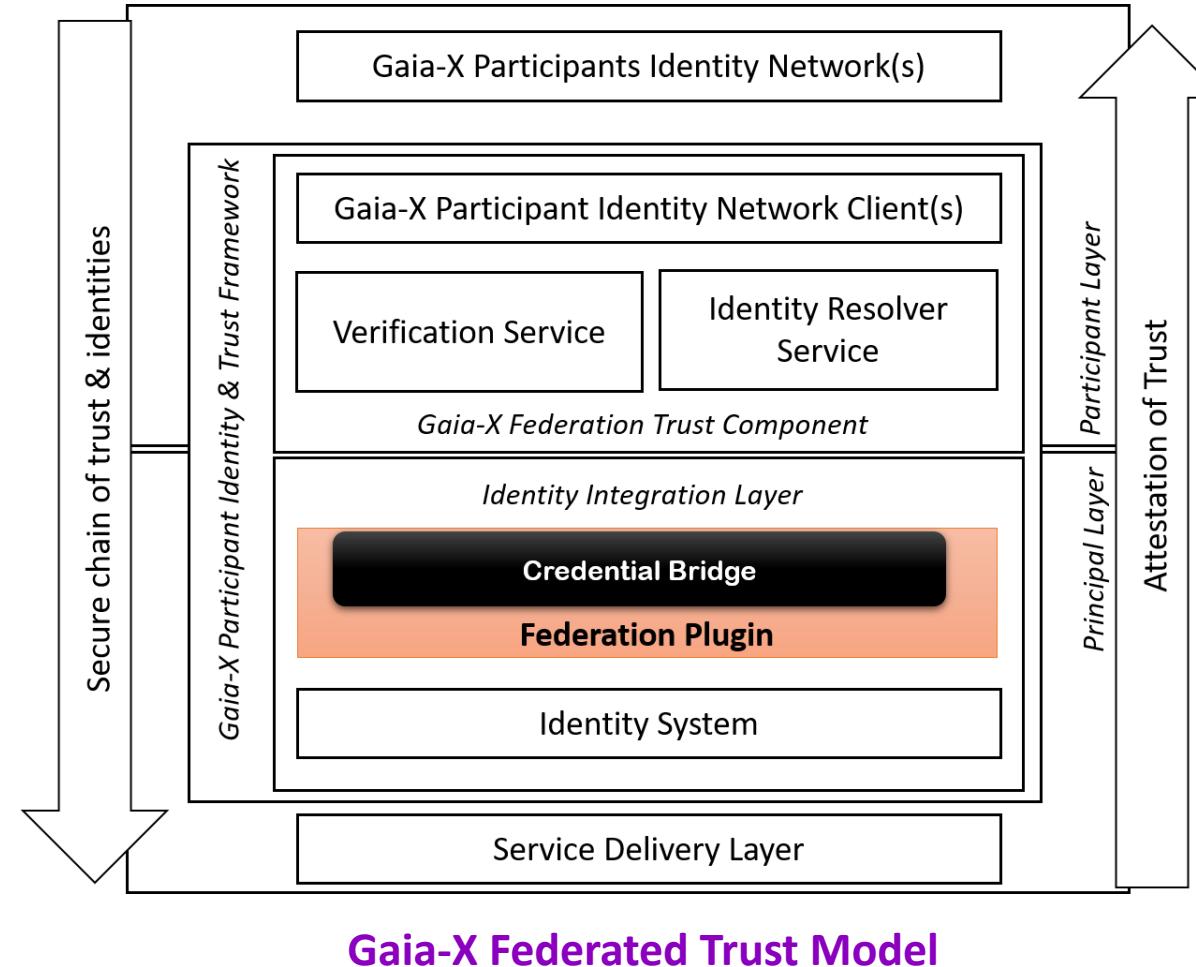
05 - Credential Bridge

- **Benefit:** Enables a cost-efficient and dynamic transformation of credentials conforming to the policies and rules of a federation.
 - The participants continue using their deployed identity system internally for their principals and still able to transact with other participants that use a different identity system.
- **Implementation Mechanism:** Credential Bridge use Usage Control (UCS+) framework as an implementation mechanism that helps to define rules for transforming credentials within a federation.

05 - Credential Bridge

Input: Verifiable Credentials (VC) or federated identity authentication tokens

Output: Verifiable Presentation





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06

Creating VC Templates from JSON
Schema

Phil Potisk, Severin Stampler

06 - Creating VC Template from JSON Templates



- **Session:** How to create templates for Verifiable Credentials, based on the SD Shapes / SD Tools
- **Goals:**
 - Allows the 'dynamic' import of SD templates in JSON-LD format.
 - Give an outlook how to build a bridge from Self-Description Generators to the issuance of Verifiable Credentials, based on VC Templates in accordance with the Gaia-X Trust Framework.



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Any questions or remarks?



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GO

Enjoy the Gaia-X Hackathon #3