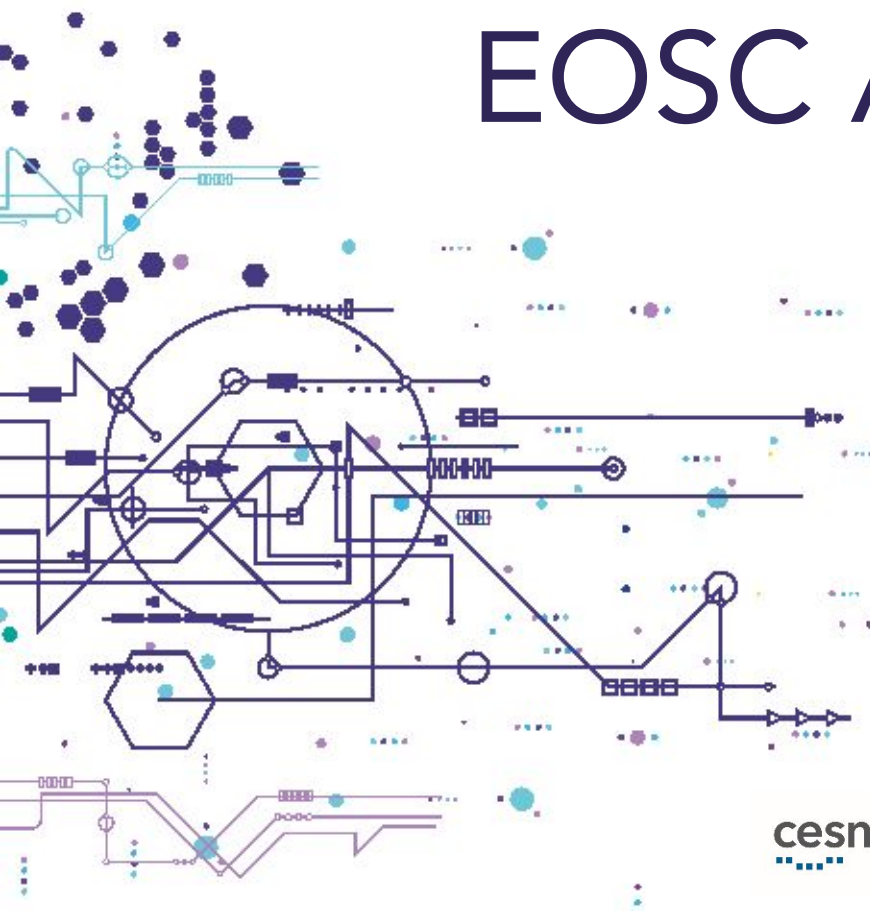


Life Science LOGIN and EOSC AAI

Luděk Matyska

e-INFRA CZ & ELIXIR CZ
Masaryk University & CESNET

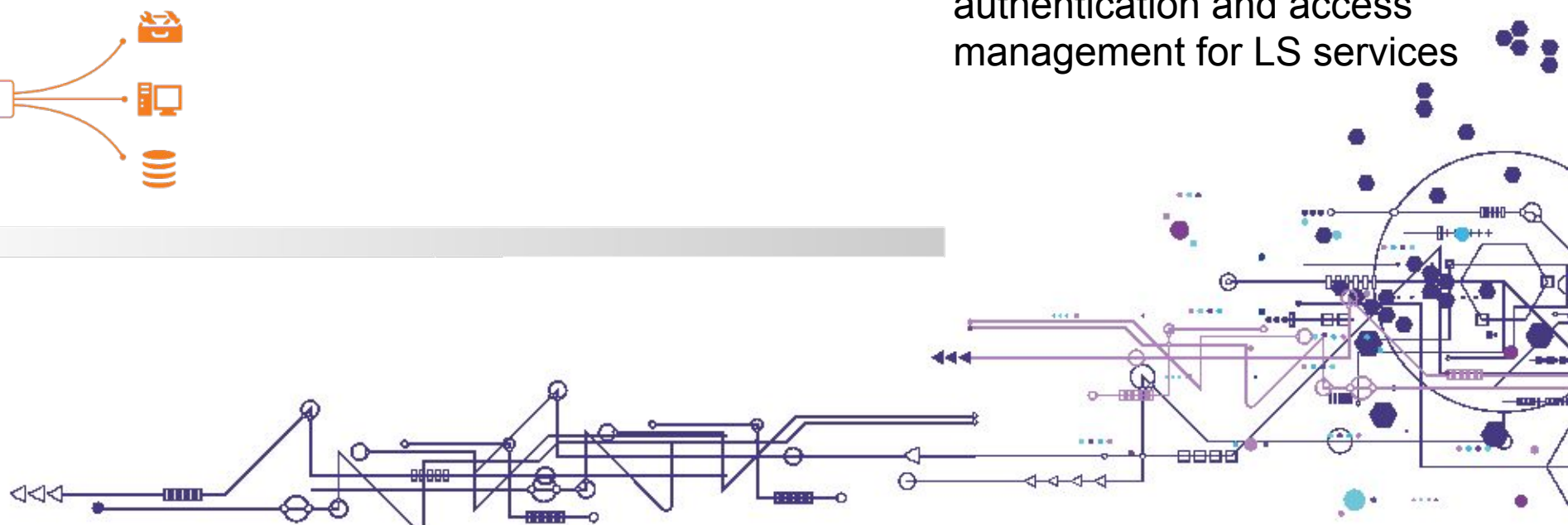
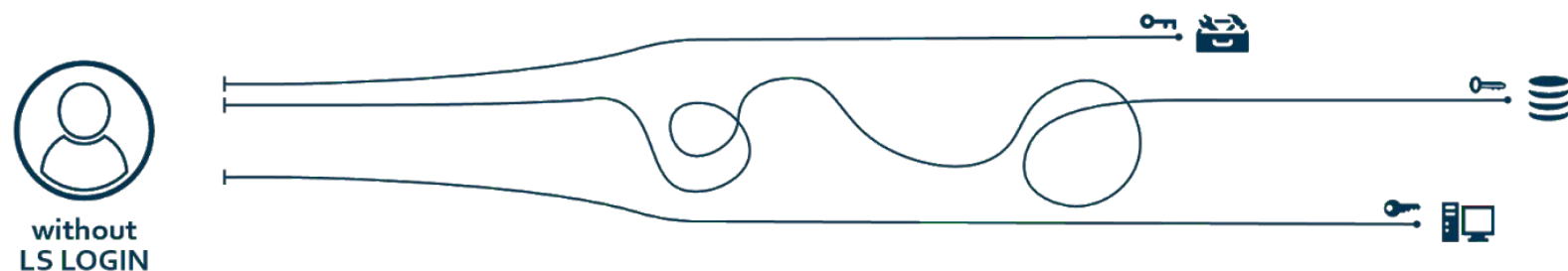


LS LOGIN – Before and After

Originally ELIXIR AAI

Co-developed through EOSC-Life Project (WP5) into current Life Science Login

Applicability for federated authentication and access management for LS services



Portfolio of user facing services in EOSC

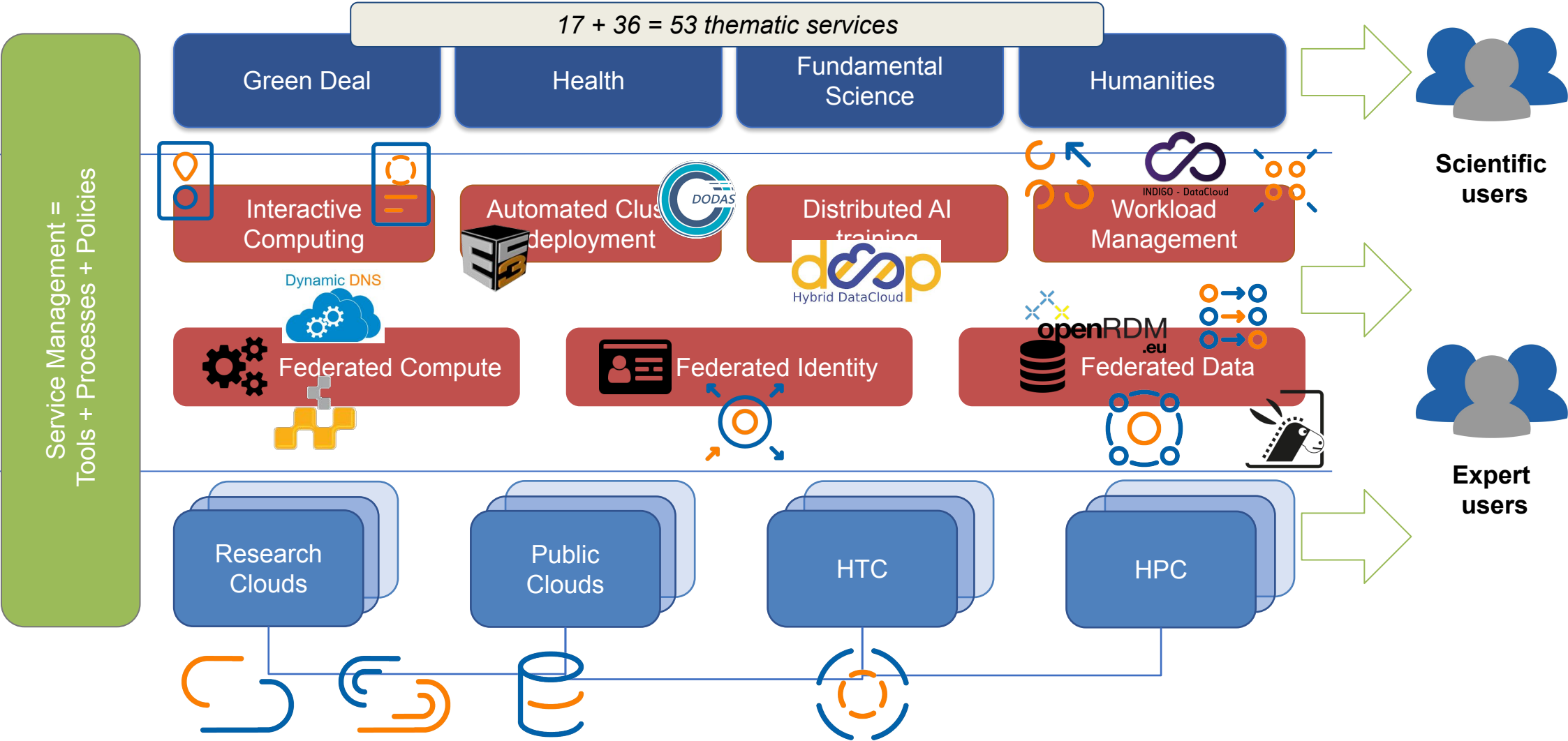


Data Spaces and Analytics
Data and thematic data analytics and processing tools

Platforms
generic added-value platform level services

Federated Access
Federation-wide management of data and computing

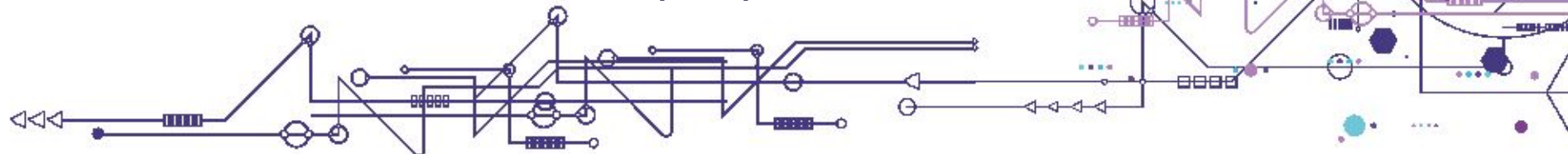
Federated Resources
Compute and storage facilities



AAI as the key interoperability enabler

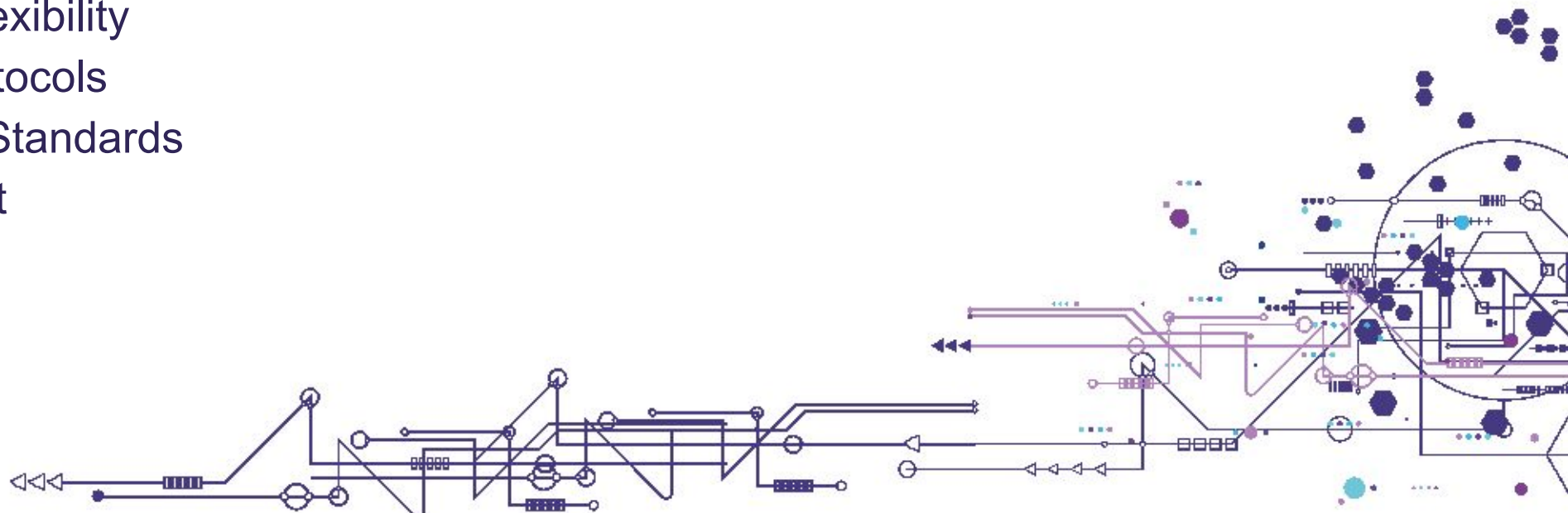
Setting the context

- EOSC as the federation of FAIR data and services
 - Not a simple single point of access
- Not everything can/should be indiscriminately open
 - Need to identify users
 - Need to provide access control
- Per data/service solution
 - Repeated work for data/service providers
 - Heterogeneity and complexity exposed to users
 - Everyone has its own unique (=different) solution
 - Need to repeated registration/attribute provision
- The answer:
- **Authentication and Authorization Infrastructure (AAI)**

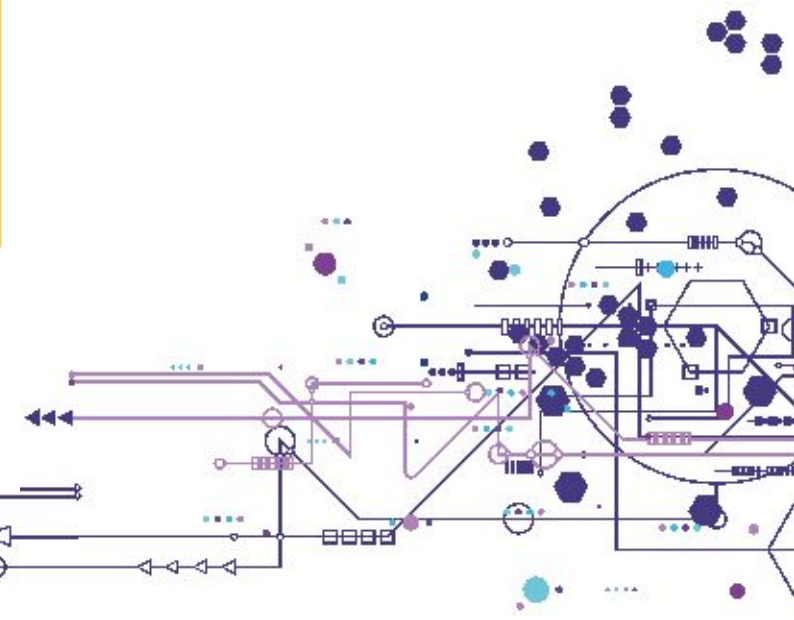
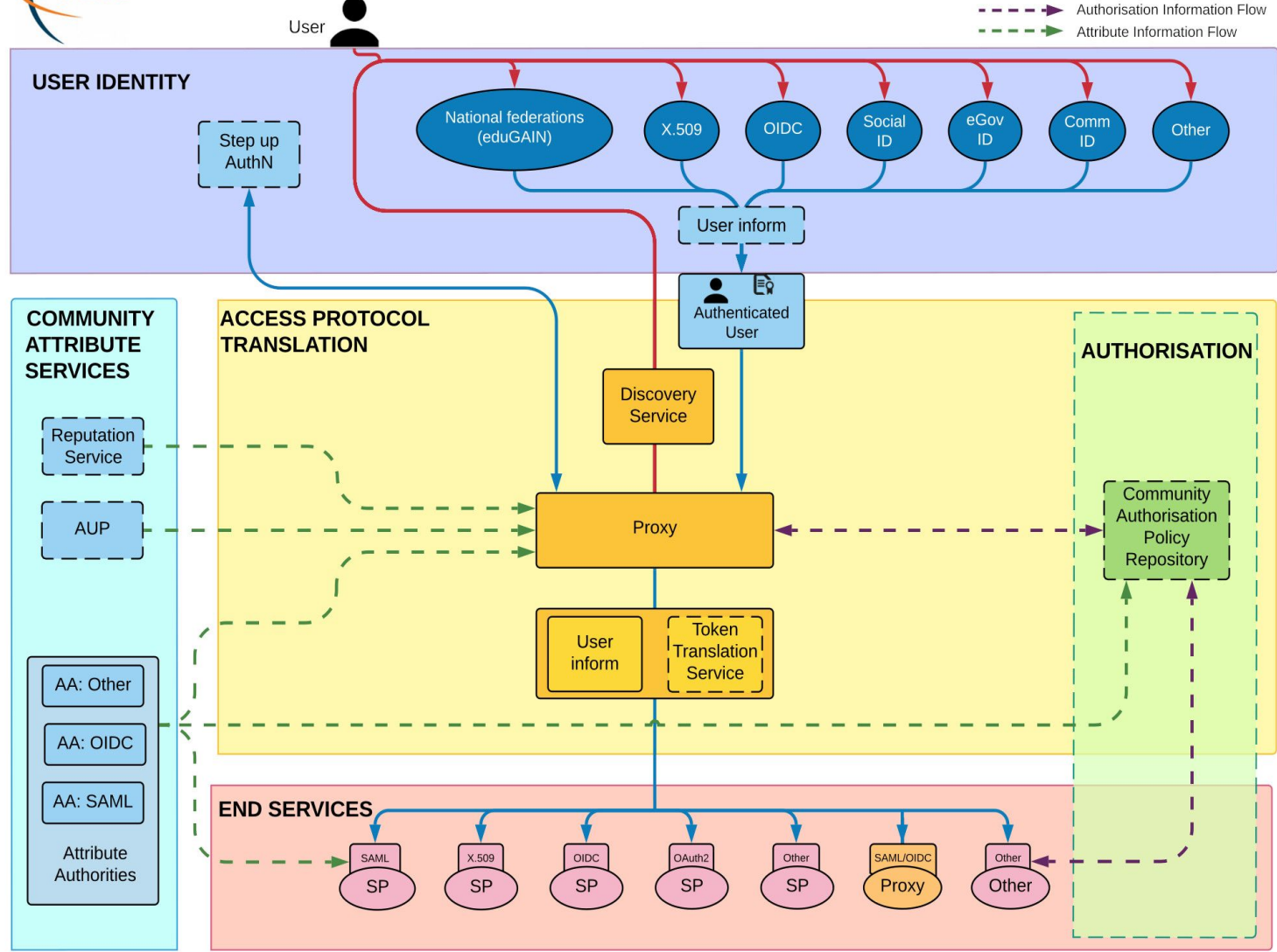


Key concepts of AAI

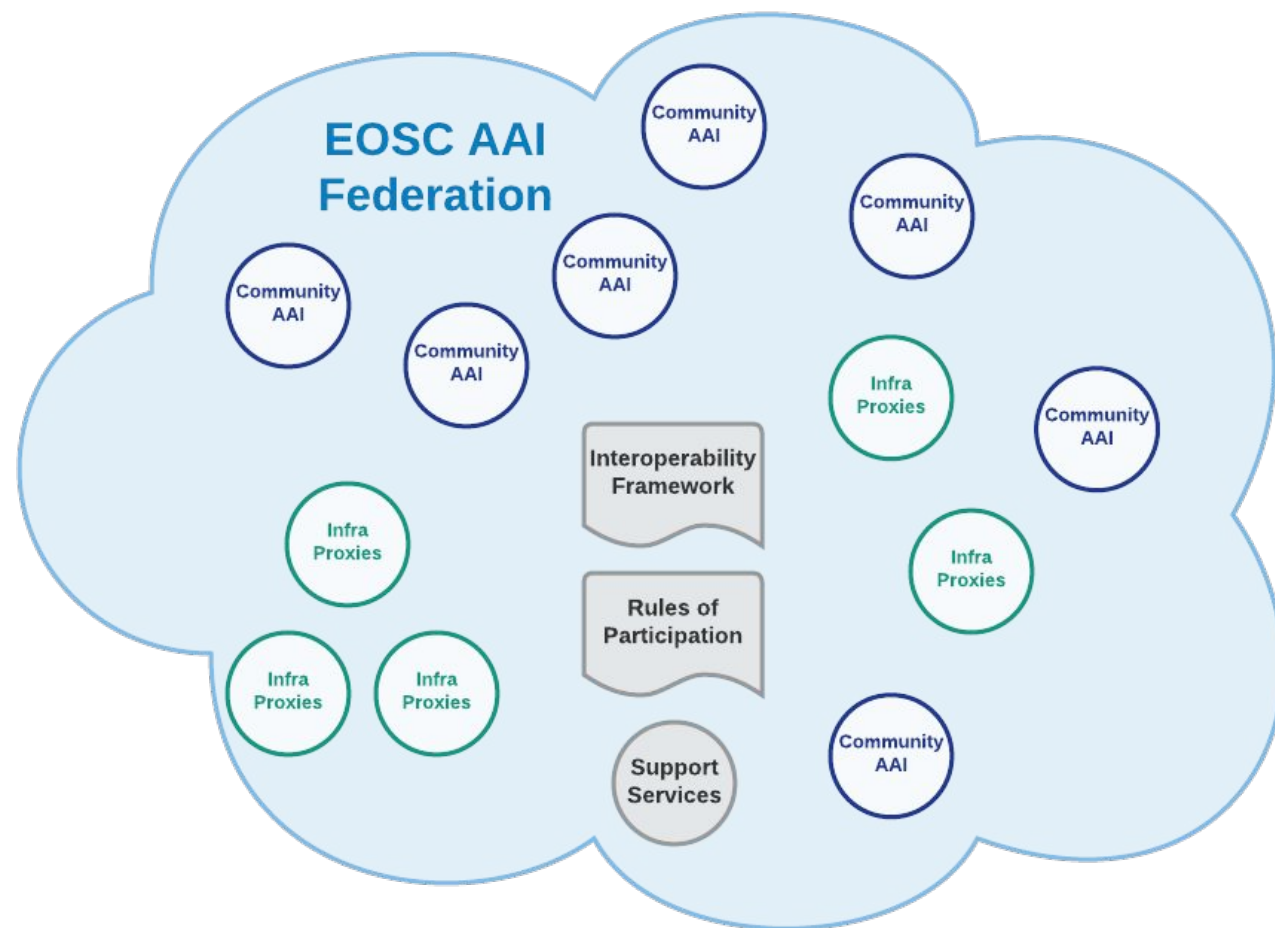
- Single Sign-On and Identity federation
- Federated Identity
- Role-Based Access Control
- Cross-Domain Access
- Cross-Platform Compatibility
- Centralized Identity Management
- Scalability and Flexibility
- Standardized Protocols
- Compliance and Standards
- Security and Trust
- **AARC Blueprint**



AARC Blueprint Architecture



EOSC AAI federation



Community AAs and Infrastructure Proxies connect once with the EOSC AAI Federation (register metadata, URN namespaces, policies etc)

Technical interoperability conformance tested and monitored by the EOSC AAI Federation.

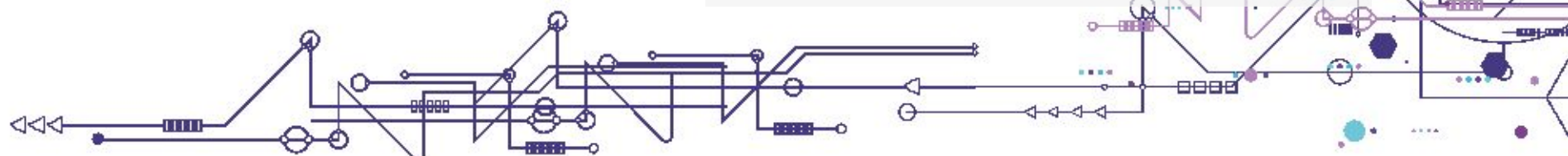
GDPR and Security Policy conformance (Policy Notices, Acceptable Use Policy etc) assessed by the EOSC AAI Federation.

Community AAs and Infrastructure Proxies discovery and establish trust with the rest of the Community AAs and Infrastructure Proxies through the EOSC AAI Federation

Credits



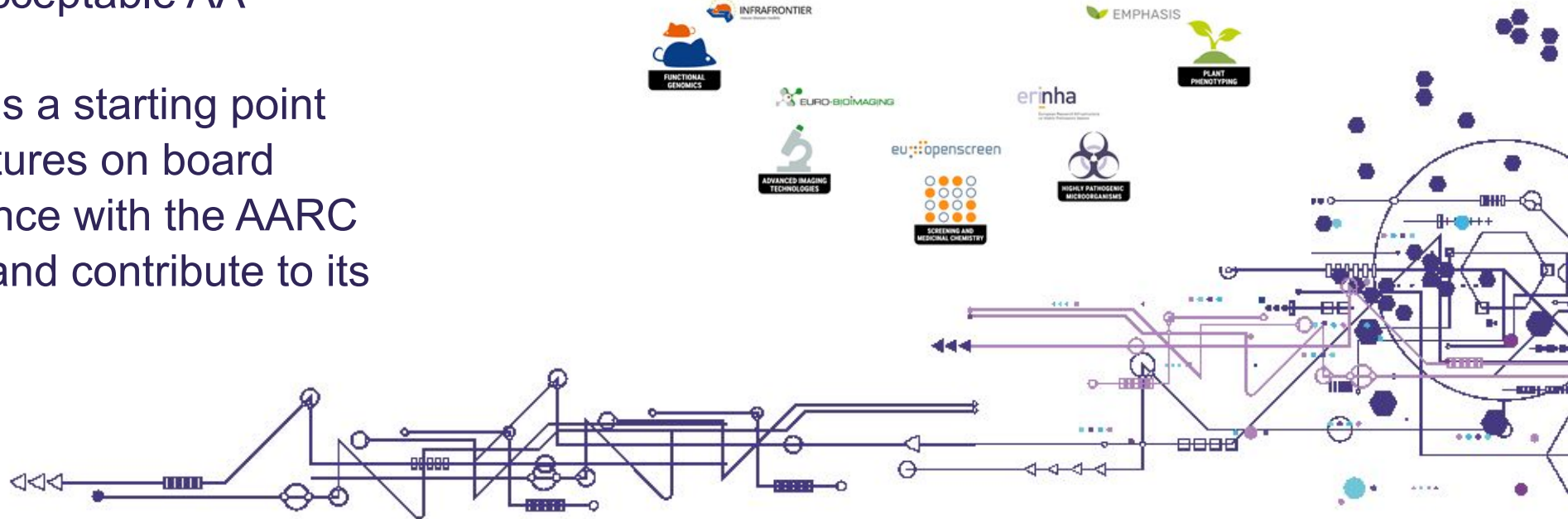
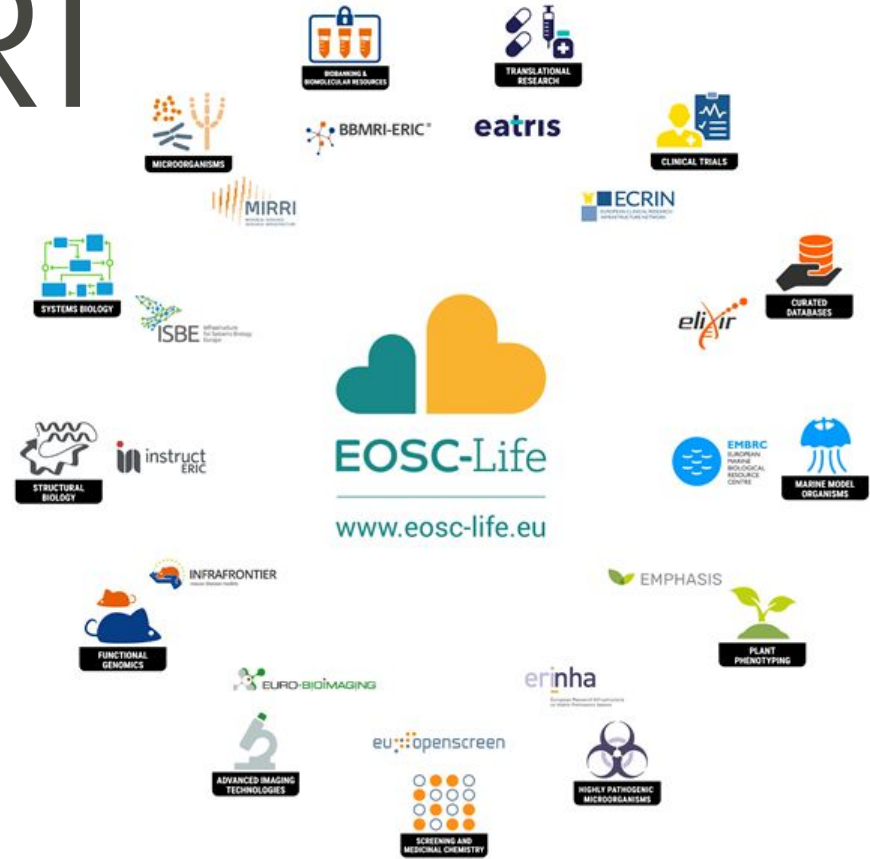
LS LOGIN and EOSC AAI



Life Science AAI

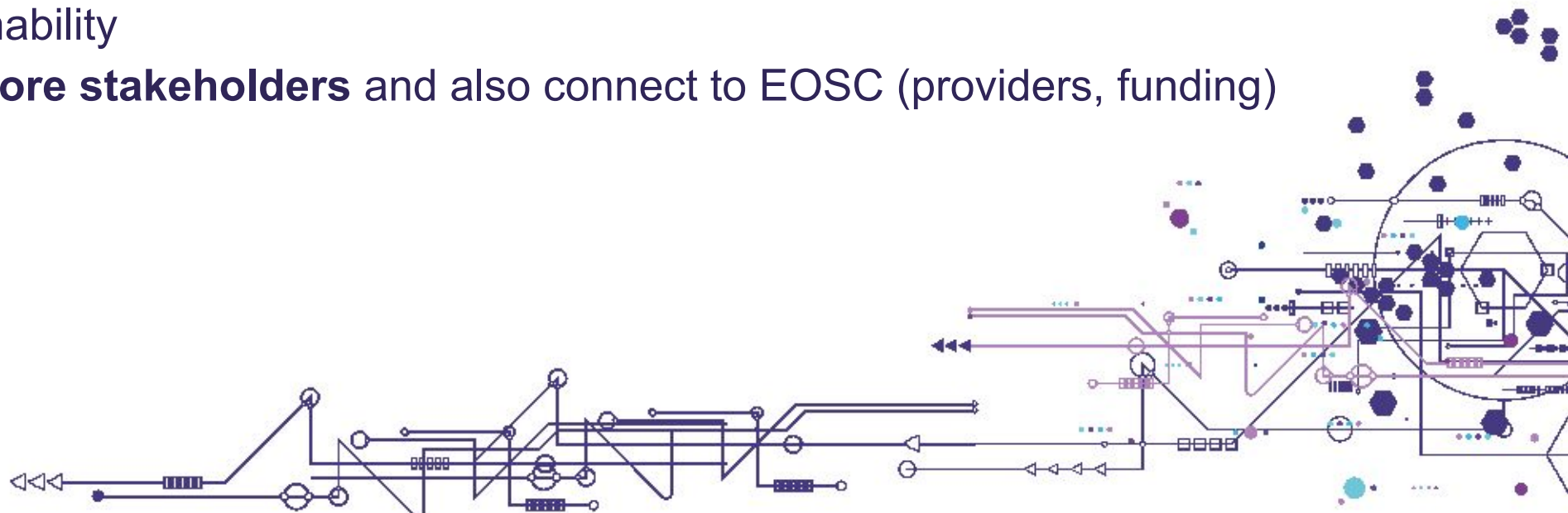


- EOSC-Life project
 - Brings together the 13 Life Science 'ESFRI' research infrastructures (LS RIs) to create an open, digital and collaborative space for biological and medical research.
- Develop widely acceptable AA infrastructure
- Use ELIXIR AAI as a starting point
- Bring e-infrastructures on board
- Keep full compliance with the AARC Blueprint for AAI and contribute to its evolution



From ELIXIR AAI to LS LOGIN / LS AAI

- ELIXIR AAI in stable production for almost a decade years
 - Federated AAI, unique user ID
 - More than 9 thousand users and almost 150 services in 2022
 - EuroBioImaging accepted ELIXIR AAI, BBMRI AAI fully inspired by ELIXIR AAI
 - Impact on the general (AARC, now EOSC) AAI architecture
- Limits for specific branding – need for **brand neutrality**
- Long term sustainability
 - To **include more stakeholders** and also connect to EOSC (providers, funding)



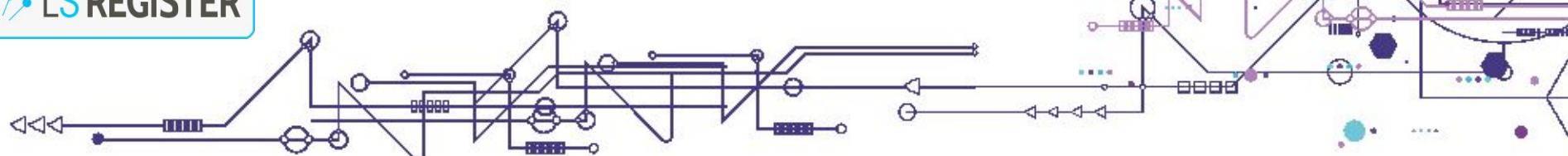
LS LOGIN / LS AAI

- LS LOGIN (LS AAI) as the universal production quality service
- Inviting the e-infrastructures (EGI.eu and GEANT) to directly take care of some components
 - Alignment of the architecture
 - Sharing the common technology components
 - Developed as part of their more general solutions
- Spent several years to create the complete background for LS AAI
 - Policies and GDPR issues (provisional Data Controller, DPAs, Policies, ...)
 - To “replace” ELIXIR AAI components by those provided by e-infrastructures
 - Setting the whole complex environment for the LS AAI to come to production
 - Two years of piloting the LS AAI
 - **LS Login is a frontend of the LS AAI**

 LS LOGIN

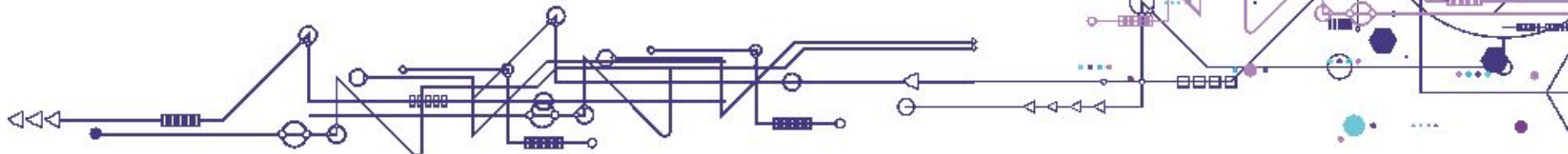
 LS REGISTER

LS LOGIN and EOSC AAI



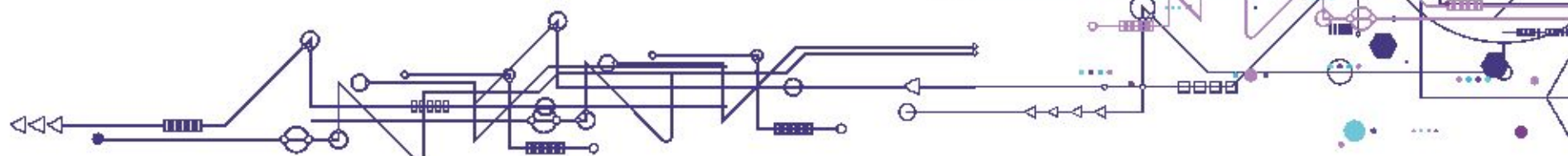
LS AAI Current Status

- LS AAI officially deployed on 11th April 2022
- All (9 thousand) ELIXIR AAI users migrated to the LS AAI
 - One day work, no direct impact on use of “ELIXIR becoming LS” AAI
 - All services immediately available through LS AAI
- **ELIXIR AAI decommissioned**
 - The only way to minimize risk of chaos and misunderstanding
 - Originally we considered to keep ELIXIR AAI as the Life Science experimental AAI
- **LS AAI is the next evolution step of the ELIXIR AAI**
 - The “official” statement
- Already new services coming to be connected to the LS AAI
- **BBMRI AAI** fully migrated in May 2023



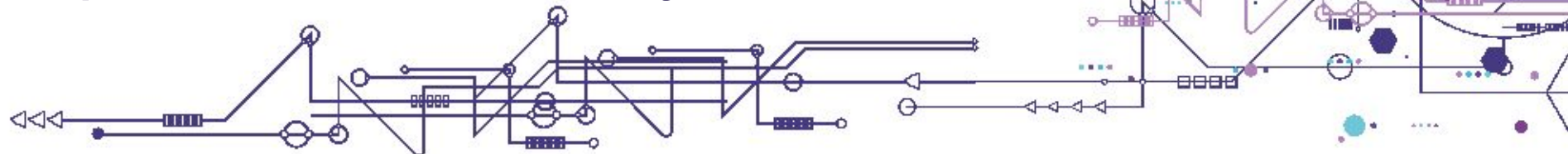
LS AAI Current Status

- 95 % increase in number of users
 - Around 17 thousand
- 20 % increase in number of services
 - More than 250
- ELIXIR AAI and BBMRI AAI fully migrated
- EuroBioImaging using LS AAI
- Instruct (ARIA) uses LS AAI
- Many projects counting on LS AAI
 - **GDI**
 - EUCAIM
 - EJP-RD
 - canSERV
 - TREs project proposals
 - Reaching out to more...



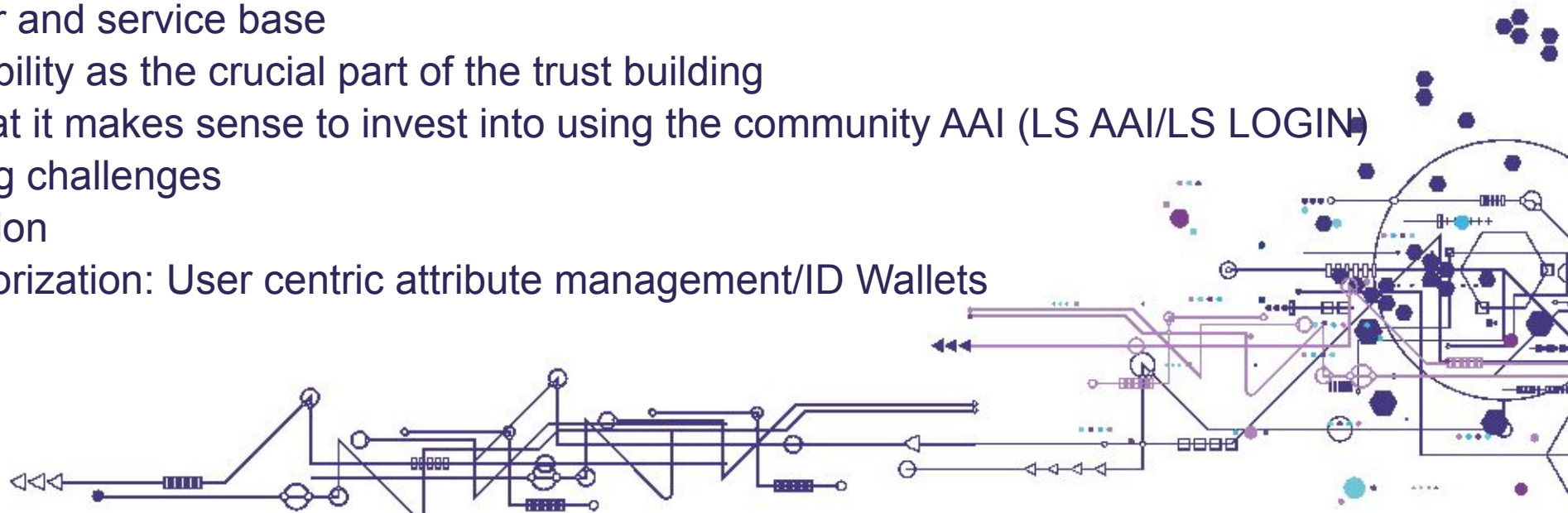
LS AAI Future Evolution

- **Sustainable stable operation**
 - Technical: Dependency on the e-infrastructures vs fast innovation
 - Financial: ELIXIR, national funding, contribution from other LS RIs, projects
 - Governance: Masaryk University/ELIXIR CZ the Data Controller, EAB under consideration
- **Trust building**
 - Essential to be deployed in sensitive environment (human data, EHDS)
- **Focus on Authorization support**
 - Delegation, GA4GH Passports and Visas
- **eIDAS integration**
 - User centric attribute processing
 - ID Wallet (eventually LS AAI Wallet)
- **The innovative exemplar of the EOSC Community AAI**



Summary

- AAI is the key enabler for interoperability
 - Federated approach
 - Standards and trust
 - EOSC AAI as an interconnected (interoperable) federation
- LS LOGIN / LS AAI a representative of EOSC Community AAI
 - Full production service, to be used also in sensitive environments
 - Long history through ELIXIR AAI
 - Large user and service base
- Long term sustainability as the crucial part of the trust building
 - Guarantees that it makes sense to invest into using the community AAI (LS AAI/LS LOGIN)
- New very interesting challenges
 - eIDAS integration
 - Focus on Authorization: User centric attribute management/ID Wallets
 - AARC3 project





Thanks and questions?

<https://lifescience-ri.eu/ls-login.html>

A circular logo for e-infra.cz, consisting of a large circle with a smaller circle inside it, and a curved line segment on the left side. The text 'e-infra.cz' is centered within the inner circle.

e-infra.cz