

## Self Sovereign Identity Use Cases, Establishment and Governance

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## Agenda

- Welcome and introductions
- Previous meeting and new Meeting dates
- SSI business canvas
- Slack onboarding
- Break & adding last cards
- Miro board discussion
- Card selection

## Slack onboarding

Slack channel **eduGAIN ssi-and-aarc-bpa-expert-group** – have all received an invitation? Expired invitations:

- christoph.graf@switch.ch
- david.kelsey@sfc.ac.uk
- david.huebner@daasi.de
- daniela.poehn@unibw.de
- hardt@kit.edu
- peter.gietz@daasi.de

## Schedule

### So far

- 9 September 2021 – introductory meeting  
<https://wiki.geant.org/display/gn43wp5/AARC+BPA+SSI+WG+-+Week+36>
- 30 September 2021 – use cases, identification of priority topics

### Next meetings

- Upon request we propose to meet bi-weekly  
Start Oct 7 or Oct 14? **(Selected: Oct 7)**
- We propose sticking to Fridays at 10.00-12.30  
CE(S)T **(Moved to 11.00-13.30 CE(S)T)**



## T&I Incubator cycle 5 on SSI (business level)

- Engaged with stakeholders
  - NRENs (SWITCH, SURF, SUNET)
  - Academic community (UniBw, Elixir,..)
  - GEANT Service owners (eduGAIN, eduTEAMS, InAcademia)
  - Other (UniBw gov use case)
- Study relevant literature (scientific and grey, EDI framework)
- Conduct overall business canvas analysis
- Report
  - SSI vs FIM glossary
  - Use cases: eduID, diplomas and micro-credentials, researcher identification and authorization
  - Detail use cases in the business canvas
  - eIDAS 2.0 and EDIW
  - Role of GÉANT and its engagement with SSI



## Use case: eduID

- A stable identity throughout educational and academic career
  - Supporting student mobility, lifelong learning, citizen-scientists
  - Features of centralised FIM solution with data under user control
  - Integration point for MFA, user identification, etc.
  - It may also be used for guest IDs
  - Long-tail of small educational organisations and research settings
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- Wallet model is a natural evolution of the eduID concept, leveraging the existing institutional, community and federated identities
  - Basis for other scenarios and future communities and usages
  - Easier use (especially outside of academia) as compared to FIM and current eduID models
  - Aligned with the growing privacy concerns and eIDAS 2.0 / EDIW

## eduID – value

- No need for centralised NREN infrastructure to hold and exchange credentials
- Separation of concerns and responsibilities, reduced data sharing and aggregation
- **For users** – user control and ownership, long-term and ad-hoc usages, all identities in one wallet, selective release of attributes, tracking prevention (mostly general SSI benefits)
- **For issuers** – unified authentication and other credentials, diplomas, badges, micro-credentials...
- **For verifiers** – less interaction with issuers and federations, easier onboarding of new or returning users, richer and possibly better identities and credentials, lower entry threshold for employers, recruiters and small providers



## eduID – Incubator business model canvas accents

- Key activities
  - GÉANT as a forum for NRENS
  - Standardisation among large communities and groups
  - Popularisation among researchers, educators and identity and credentials consumers at all levels – GÉANT: generic and customisable guidelines and materials
- Costs
  - Infrastructural and long-term – implementation, standards, uses and expectations management
  - Less frequent validation of identities – rely on national schemes and organisational onboarding
  - Use of a distributed ledger
- Revenue
  - Mimic the current FIM revenue streams and financing models – projects, membership fees
  - Should not charge issuing and wallet-related usages – free for individuals
  - Charging of Verifiers – membership fee, not per-use
  - As indirect cost for organisations, services and research projects
- Value (streams)
  - Base identity for various credentials and uses (and part of their value streams)
  - Improved end-user privacy
  - Cost reduction for: institutions – not having to (re)establish user identities; dealing with alumni; services using academic identities; guest identities and short-term usages
  - Better usability and alignment with the common wallet





## Use case: Diplomas and micro-credentials

- Trusted exchange of digital diploma information
- Issuance of verifiable digital credentials (badges)
- In support of student mobility and life-long learning
- Digital verification of diplomas
- Open ecosystem for verifiers
  
- Use of digital diplomas and badges is much easier for our and other sectors
- Cost-saving due to easier digital exchange
- Opportunity for standardisation
- No need for centralised infrastructure to hold and exchange credentials (?)



## Use case: Researcher identification and authorization

- In research collaborations, researcher identity is an aggregate of multiple sources (institutions, VOs, others)
- Need for a flexible ‘Guest / External identity’
- AARC BPA proxy model has usability challenges
- Long-tail of those who are still struggling to use FIM
- Only run centralised infrastructure to hold VO credentials, but not authN proxy
- Leverage ‘external’ credential sources, e.g., for guest login, MFA and/or addition identity validation
- Removing the need to switch between multiple accounts
- Agility in establishing trust relations



## Researcher ID – value

- Researchers need a trusted digital identity to collaborate
- The current FIM model requires a home organisation and federation – not every researcher can join a federation for various reasons
- SSI relieves services from establishing own mechanisms for identification of individuals
- Can be built on top of eduID
  
- Ability for research collaborations to issue community created entitlements towards the researcher
- Leverage external identity, with proper assurance, for collaboration with users and partners from other sectors
- Research collaborations can act as verifiers for researchers
- A more flexible way for the management of roles and participation and short-term control of access to instrumentation, resources, tools, reporting, etc. used in research projects, which are temporary endeavours and have own governance mechanisms
- Ability to directly establish trust relations between entities participating in a collaboration

# Opportunities for GÉANT

**Should stay aligned with eIDAS 2.0 and EDIW developments to prevent potential funding problems**

**EDIW Toolbox process WG is important for GÉANT's technological and SSI-related moves**

- Influence and contribute to the common technical architecture, standards and specifications, guidelines and best practices, particularly in R&E related parts
- Coordinate with other cross-national initiatives, EU projects, and the EU regulation targeting RI, identity management and privacy (through TFs and other fora)
- Innovation and development coordinator/hub for new SSI solutions (TFs etc.)
- Participate in establishment of technical certification requirements and operation of certification bodies
- Act as development and operational cost-sharing broker for technical systems that interact with the SSI
- Provide internationally trustworthy trust lists of entities (sources and relying parties), for use with both the EDIW and other (academic and non-EU) wallets
- Oversee or operate Qualified Trust Services (QTS), registries for academic purposes, DLT, etc.
- Support designated intermediaries (such as NRENs) in verifying sources or attributes
- Propose or establish catalogues of attributes and schemes for attestation of attributes
- Protect the established infrastructure and work (such as eduGAIN) and ensure interoperability
- Knowledge concentrator, disseminator and producer for guidelines, policies, technical and promotional materials

## Open questions

- Diplomas and badges may still need user identification attached to credentials – does that challenge the Open ecosystem for verifiers?
- How to handle long-term management of credentials?
- Can the trust ecosystem be shared between all use cases? Do we need to?
- What other elements can we consider as shared?
  - DLT infrastructure(s)
  - ‘Translation’ between SSI ecosystems
  - Software implementations
  - Wallet(s)



## Cards in Use Cases boxes

1. Governmental eIDs use, also across borders
2. Student mobility (+ employment): diploma and supplement data (+ micro-credentials)
3. Student? Commercial benefits: discounts, fast-track services
4. Researcher? (+ Specifics about the field of research?)  
Allow SPs' access to richer data?



## Cards in Standards, Interoperation, Best Practices box

- Common practices and problems: Describing and sharing, based on existing experiences
- Standardised VC dataset specs: attributes, appropriate usages for datasets, likely source types
- Defined process for definition and maintenance of standard VCs datasets?
- (+Should VC compositions and their usages be also standardised?)



## Cards in People box

- Better UI for educated decisions on personal data
  - Entity profiles for Issuers and Verifiers – easier interpretation
  - Access profiles and predefined verifiable presentations – pre-authorized user choices, understanding, less false warnings, convenience?
  - (Mobile OSes are having a similar problem with app rights management)
- Training materials: target audience groups? ...?





## Cards in Constraints box

- Role of IdPs in VCs distribution and validation???
  - (+Isn't there just pull by Holders? Introduce per requester/Holder/principal limits for DoS resilience?)
- Use of several wallets: Blessing or curse?
  - Different UI, security, personas?
  - Business, private, state-mandated (EDIW)...?
  - How users choose or know which one they use?
- Cost/affordability of SSI (+ transition and operation)
  - Conflicting business models (Examples???)
  - Who pays for what **in different use cases?** (+ shared trust and infrastructure)

## Cards in Technology box

- Will some of the infrastructure or services be limited to a subset of use cases?
  - E.g., just for EU residents?
  - Wallets and wallet certifications for specific use cases?
- Open source software for services, agents, wallets?
  - Will it come in the second wave of SSI software?

## Break

- Get yourself some tea or coffee
- Read through the cards on the Miro board
- Think back to presentation for today and last meeting.  
What questions are still missing?