ΕΣΜΟ: eIDAS-enabled Student Mobility

Νέες τεχνολογικές δυνατότητες για τη διαχείριση της κινητικότητας των φοιτητών προς την Ελλάδα: το έργο ESMO και η συνέχεια του

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www.ESMO-project.eu
The perspective of European **Digital University**
ESMO is a platform for civil and academic attribute aggregation

- “Inside” and “outside” of the eIDAS Network
  - Completes the functionality of the eIDAS Network
- Extends the eIDAS Network to include Service Nodes that form something larger, a short of eIDAS ecosystem
  - Services Nodes: ESMO Gateways (GWs)
  - Service Nodes provide “bundled” authentication, attribute transfer functionality and more!
    - Aggregate an eIDAS authentication response (eIDAS Network) with attributes obtained from authoritative academic resources (eduGAIN)
    - Aggregate more: other forms of academic content obtained from other networks (for example EMREX for student academic data transfer - https://emrex.eu/)

1. eIDAS eID
2. academic attributes
   - Personal Identifiable Information (PII)
   - Institutional Attributes

student data (ELMO)
ESMO: Architecture and functionality

User access e-service and is redirected to authenticate with eIDAS eID

Redirected to ESMO GW

Final consent on AVPs to be returned to the SP

Match eIDAS ID & attributes or re-authenticate

Attribute Aggregation & Consent

DSA Request (ES, HEI X)

HEI X Academic Attributes

Match eIDAS ID & attributes or re-authenticate

DSA Request (GR, HEI Y)

HEI Y Academic Attributes

Match eIDAS ID & attributes or re-authenticate
What does ESMO offer to HEIs?

1. A “ready-to-use” infrastructure for massive cross-border academic attribute transfer
   a. Transfer of a large set of academic attributes
   b. Complementing an eIDAS identification request

2. A GW to access ESMO and eIDAS infrastructure (i.e. ESMO GW)
   a. OIDC interface
   b. An HEI can
      i. Deploy its own ESMO GW
      ii. or (preferably) connect to an existing GW (Athens ESMI GW)
         • Athens ESMO GW (with augmented functionality) already serves Universities from Norway (we work in close co-operation with UNIT)

3. A possibility to use the same “connector facility” (ESMO GW) to connect to other networks (EMREX for student records - EWP, in the future, for mobility related papers, such Learning Agreements etc…)
ESMO GW **detailed architecture:** the **augmented** version
(Athens ESMO GW)
How a HEI can connect to an existing ESMO GW? (the case of the “augmented” Athens ESMO GW)

1. **Task 1**: Connect its Online Services to ESMO GW (augmented version) SP micro-service
   a. Generate and consume OIDC claims
   b. Keycloak (https://www.keycloak.org/)

2. **Task 2** (non-GR HEIs): Create a local proxy that establishes a link between an eIDAS Network Node and ESMO GW - IdP micro-service (*augmented version: Athens ESMO GW*)

3. **Task 3** (non-technical): Activate an SP presence in the “eduGAIN space” to attract Attribute Providers that agree to collaborate with the requester HEI (i.e. accept to provide attributes)
More: How can we **efficiently organize the service provided** by ESMO? **GUnet and UAegean collaboration**

- **ESMO provides**
  - aggregated PII data (eIDAS eID plus academic attributes)
  - student data (academic records, etc.)

- We can use ESMO offerings to support the needs of local applications and online academic services that are related to inward mobility projects; examples:
  - **Automatic completion of electronic forms in the Application and Admission processes (we start now! coordination GUnet/support from GR Ministry of Education)**
  - Use of specific attributes to provide instant access to physical campus services (library and classes - IoT, objects in sales - only for students etc.) and eventually to a University's suppliers services (a user can easily prove easily critical personal attributes, such as “I am student”, “I am over 18” etc.)
A common for all GR Universities ERASMUS+ Application and Admission Application

• Application and Admission for
  - For EU/EEA students
    • Studying at a GR University
    • Carrying at a GR University
    • Progressively covering also GR business that welcome foreign students
  - Version: Visually Impaired Users

- For EU/EEA HEI personnel moving to a GR University
  • Academic staff - Administrative staff
- Version: Visually Impaired Users

- In all cases, an automated admission acceptance process applies!
  • Internal application part to manage the ERASMUS+ students flow
(*) ESMO offer in detail
(Athens ESMO GW)

• We provide ESMO OIDC Connectivity in two flavors:
  1. ESMO SP kit for HEIs
     a. Registration to ESMO SP micro-service
     b. “Pure” OIDC connection
  2. ESMO SP kit plus
     a. mobility IAM (Keycloak) with OIDC to Athens ESMO GW (and to GR eIDAS Node)
     b. Automated management of external Users (ERASMUS students, visitors etc.)
     c. Straightforward integration of existing applications to ESMO and eIDAS Network
     d. Ready to use apps
        i. ERASMUS+ Application and Admission app (with a DB selection option)
        ii. ERASMUS e-Wallet