

# Student mobility @ SURF

TF-Edu meeting

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Rennes

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# *tinc24*

RENDEZVOUS À RENNES  
Rennes, France | **10-14 JUNE 2024**



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**| A fast update from NL on:**

**Student Mobility**

**Badges**

**Standards**

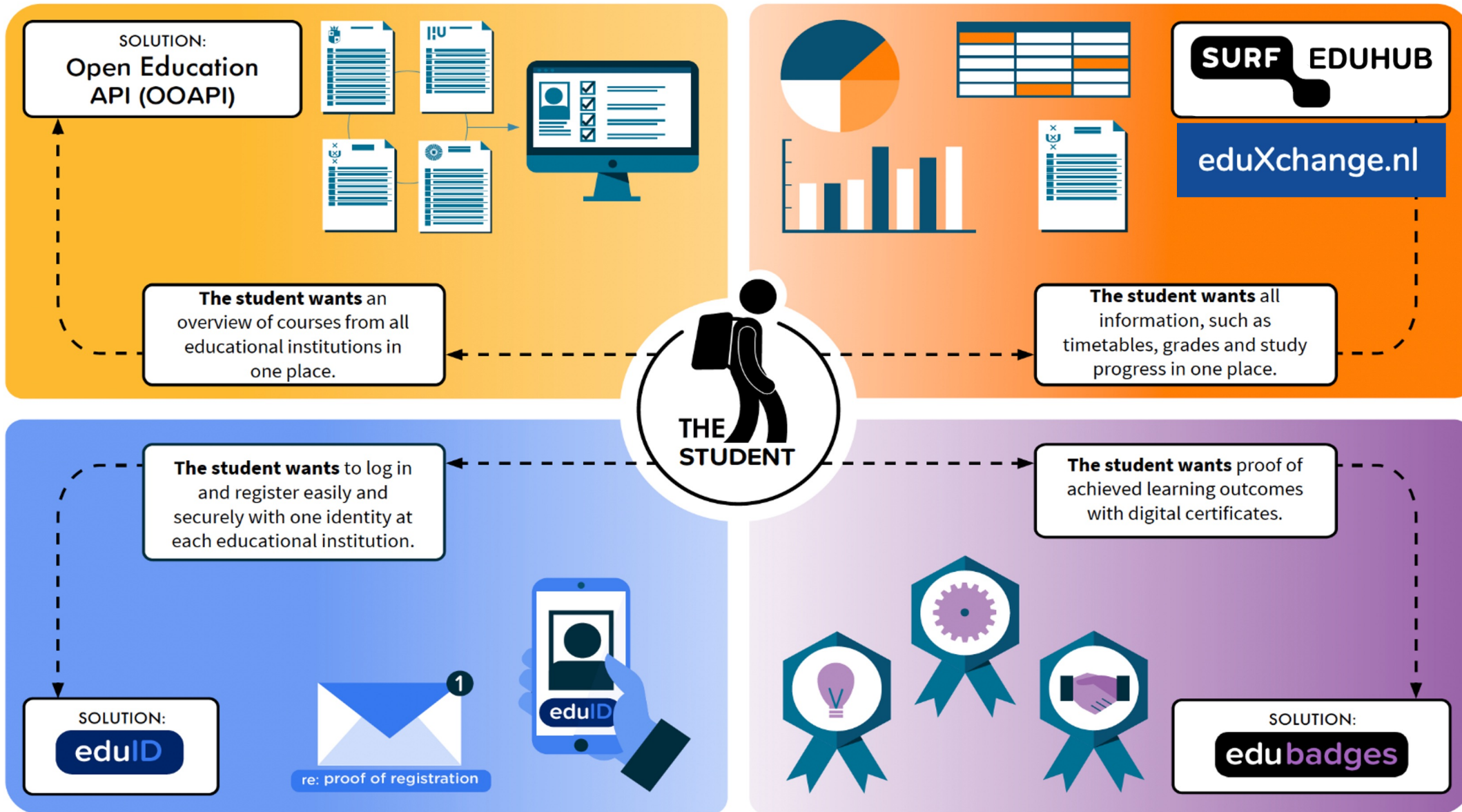
**Semantics**

**Wallets**

# STUDENT MOBILITY

## TECHNOLOGY FOR ENHANCED FLEXIBILITY IN EDUCATION

National approach to organize flexible education based on the needs of the student



# Student exchange *within* the Netherlands

- Two Dutch University alliances (EWUU and LDE)
- Registering for a minor is done through the eduXchange.nl pilot platform, using the platform for:
  - orienting on course and minor offerings;
  - registering for a course and/or minor using digital data exchange between institutions.
  - providing the results of courses.
- Peak day:
  - On Tuesday, May 15, registration for 210 minors at Leiden, Delft and Erasmus universities opened via the pilot platform eduXchange.nl. Students could register for minors at their own and other institutions. In 2.5 hours, 6800 successful minor registrations were achieved.
  - Registration requires a student-centric eduID that is linked to institution accounts. Most prospective minor students took care of that this week: as of Monday, over 4,100 students created an eduID without any problems.

# Student mobility – roadmap European alliances (1)

- Pilot:

- **EuroTeQ** (Technical University of Eindhoven)

- A complete automated real time course catalogue is available for all seven universities on [euroteq.eduxchange.eu](http://euroteq.eduxchange.eu).
    - In Q1 2024, a pilot was started to investigate which authentication and authorization standard is applicable for the automatic enrolment procedure for students. A new design based on the European standard MyAcademicID (eduGAIN) was introduced.

- **AURORA** (Free University of Amsterdam)

- Building a joint course catalog for 10 universities based on same model as EuroTeQ (OEAPI and eduXchange).

# Student mobility – roadmap European alliances (2)

- Negotiating with:
  - **CHARM-EU** (Utrecht University, 9 universities)
  - **ENHANCE** (Technical University Delft, 10 universities)
  - **UNIC** (Erasmus University Rotterdam, 10 universities)

See the vision of TU Delft (ENHANCE) on the future of alliances (EUNIS24, last Friday):

- [106 EU Alliances 1 #Key3 Voute.pdf - Google Drive](#)

### WHAT IS AN EDUBADGE?



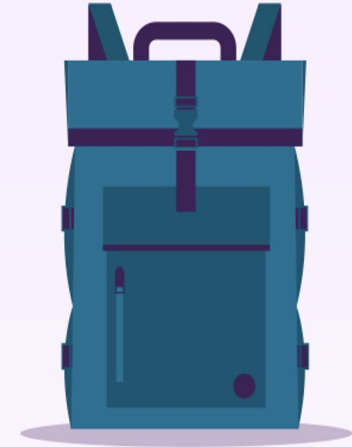
#### An award for successfully attaining learning outcomes

An edubadge enables students or workers to show that they have achieved a certain set of knowledge or skills during a period of formal accredited education or during a period of non-formal learning.



#### A single platform for Dutch education

An edubadge is issued in an online format within a secure, trusted platform. The national platform makes it possible to compare, exchange and combine edubadges.



#### Lifelong learning

The knowledge and skills that a student or worker has acquired will be visible in their personal backpack, where they can collect their edubadges. An edubadge can be shared with and verified by employers or learning institutions.

# edubadges

## ISSUER

- **InstitutionNameExtension**
- **InstitutionIdentifierExtension**
- **GradingTableExtension**

## BADGECLASS

- **LanguageExtension**  
*Language of instruction*
- **ECTSExtension**  
*European Credit Transfer Points*
- **StudyLoadExtension**  
*Study load in hours*
- **TimeInvestmentExtension**
- **EQFExtension**  
*European Qualifications Framework*
- **LearningOutcomeExtension**
- **EducationProgramIdentifierExtension**

## OPEN BADGES

### Data & Information Inside

Alignment	Expiration Date
Badge Criteria	Issued Date
Badge Description	Issuer
Badge Name	JSON-LD
Digital Signature	Recipient
Evidence	Verification



## Open Badges Standard <sup>+</sup>

- Added 11 European centric **metadata extensions**, aligning with Bologna tools like the Diploma Supplement
- eduID: Life Long **persistent identity** managed by the learner
- **Extended roles** and rights model controllable by the institution
- **GDPR compliant** flow for awarding and publishing earned Edubadges



**Edubadges in backpack**<sup>Ⓢ</sup>

Total edubadges in backpack **12,032**

Direct awarded and claimed **6,023**

Requested and awarded **6,009**

Public edubadges **5,350**

Badge classes **1747**

**Direct awarded**<sup>Ⓢ</sup>

Total send **14,545**

Direct awarded and claimed **6,023**

Rejected by student **2**

Unclaimed by student **8400**

Revoked after awarded **120**

Claim rate **42%**

Issuers **286**

**Requested**<sup>Ⓢ</sup>

Total requested **6,952**

Requested and awarded **6,009**

Denied by institution **359**

Revoked after awarded **151**

Pending by institution **433**

Issuer groups **189**

**Institution**

Total

Include SURF badges in the total?

Portal users **584**

**Type edubadge**

All

Issuer group

Select an issuer group...

Issuer

Select an issuer...

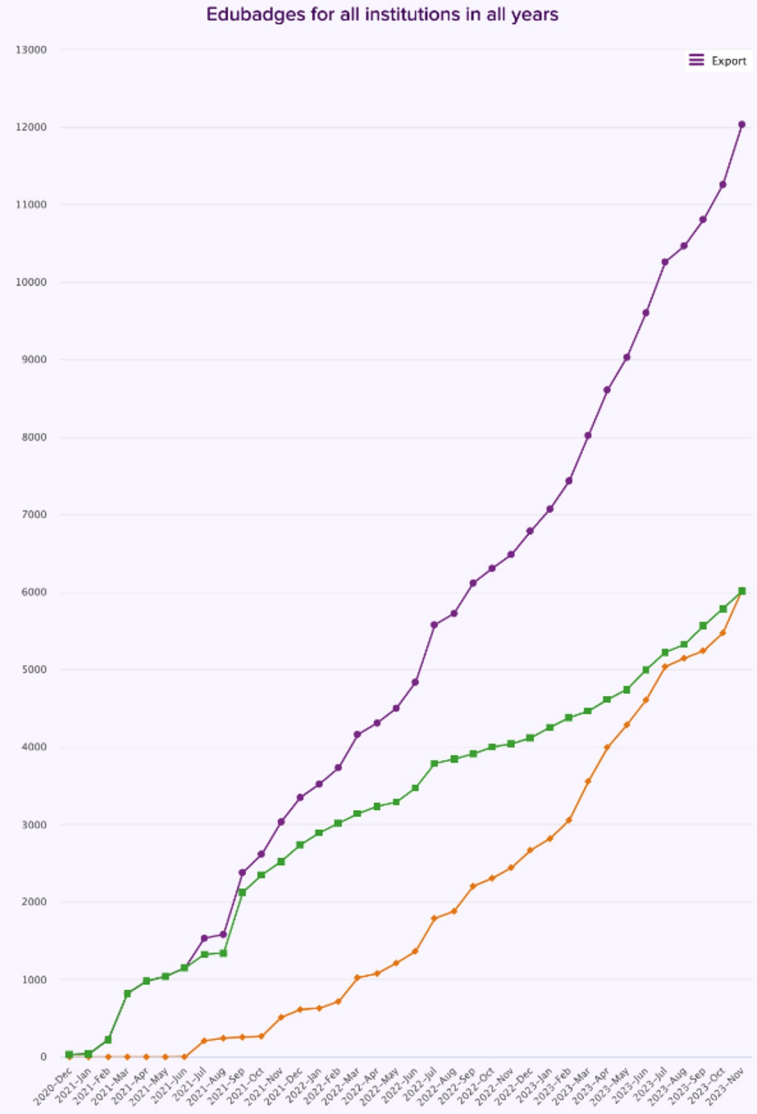
Badge class

Select a badge class...

Year

Total

[Reset](#)



# Edubadges achievements

As of 29 Nov. 2023

**61** Higher and Vocational Education Institutes are issuing Edubadges

**1.975** Badge Classes

**9.821** Students/professionals have earned Edubadges


**15.029** Edubadges in the backpack

**7.035** Edubadges have been made public

# OpenBadges 3

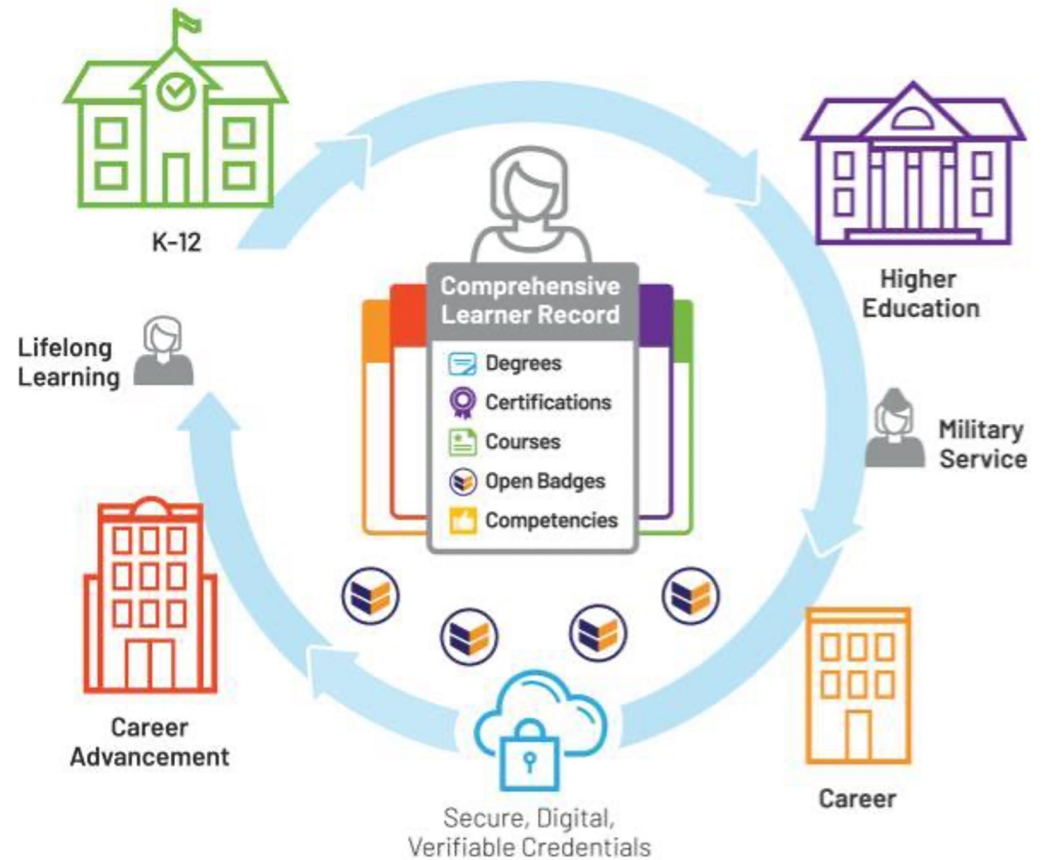
- Improvement on current Edubadges platform
- Added support for credentials@wallets
- Change in ownership and storage of information (student in control)

**Collect**

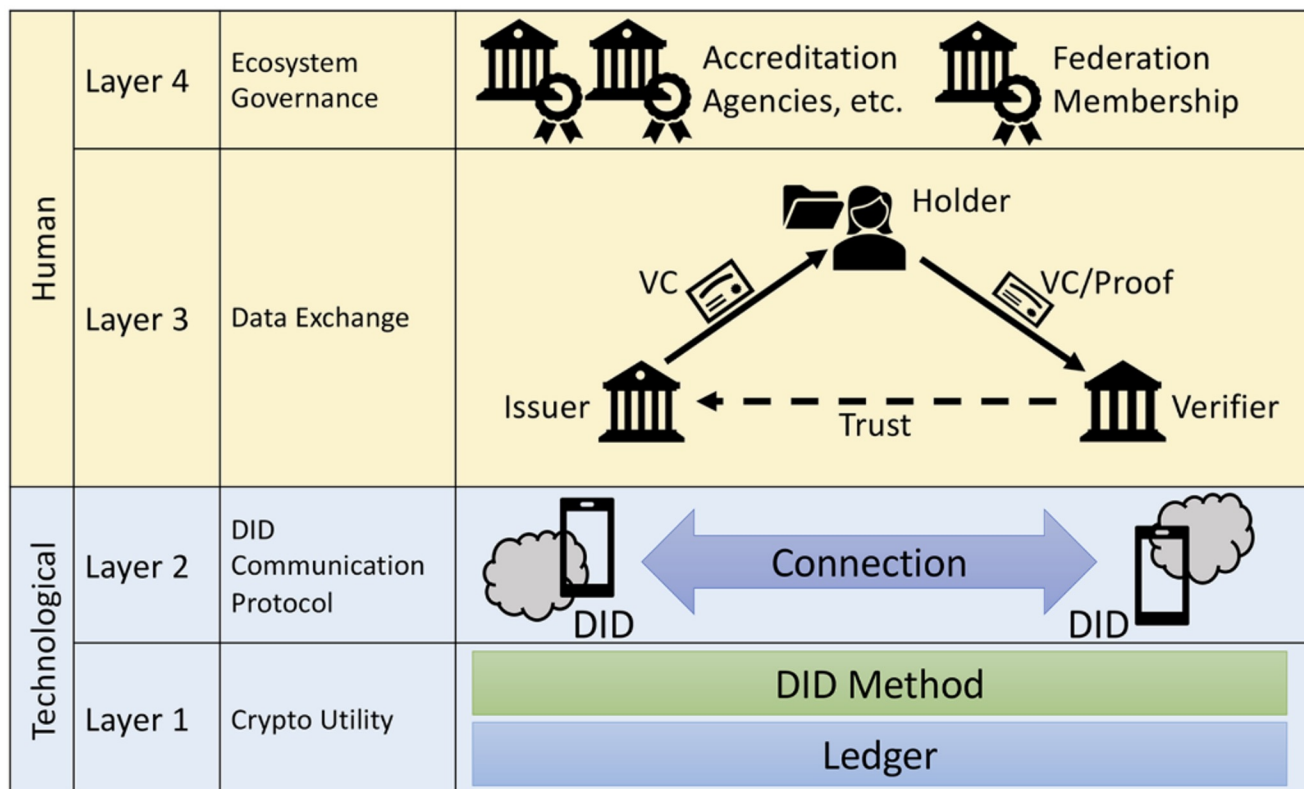


A backpack is the place to receive and collect edubadges.

[Open your backpack](#)



# A layered cake approach



<https://er.educause.edu/articles/2022/4/self-sovereign-identity-user-scenarios-in-the-educational-domain>



# | A layered cake approach

- Envelope: W3C Verifiable Credentials Data Model
- Digital Signature: e.g. "Ed25519Signature2020"
- Achievement Schema: Open Badges 3.0
- Achievement Framework: e.g. Open Recognition Skills / EDCI / ELM / ESCO / Microcredentials / Open recognition
- Issuer identifiers: e.g. DIDs or URLs
- Recipient identifiers: e.g. URIs or DIDs
- Delivery protocol: e.g. OB 3.0 API, DIDComm Messaging or OIDCVC, Credential Handler API (CHAPI)

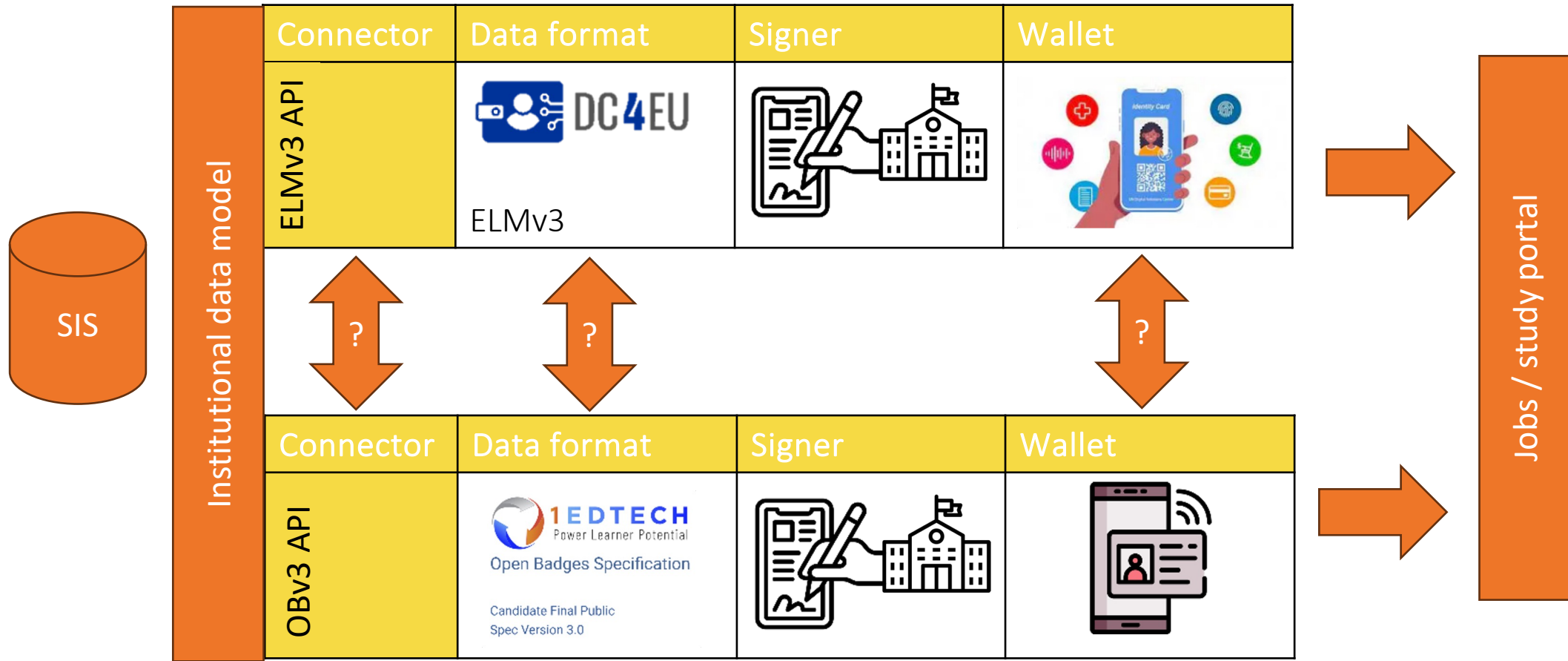


# The Data Exchange layer: ELMv3 and OBv3

- Students and lifelong learners can obtain certificates in different formats
- Students will probably use different wallets
- Employers / validators could be confronted with different formats



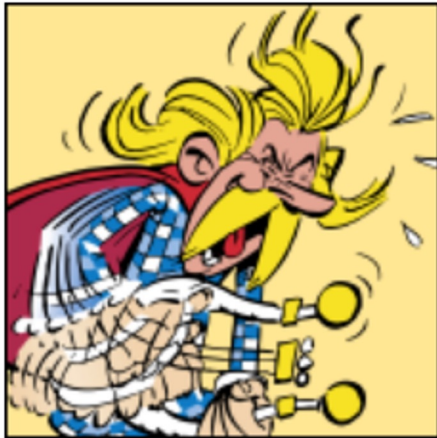
# Interoperability challenges



# Semantix...

## Cacofonix

Home > Portfolio > Cacofonix



Citizenship : **Gaul**

French name : **Assurancetourix**

German name : **Troubadix**

Dutch name : **Kakofonix**

Spanish name : **Asurancetúrix**

Italian name : **Assurancetourix**

Portuguese name : **Cacofonix**

# Semantics mapping

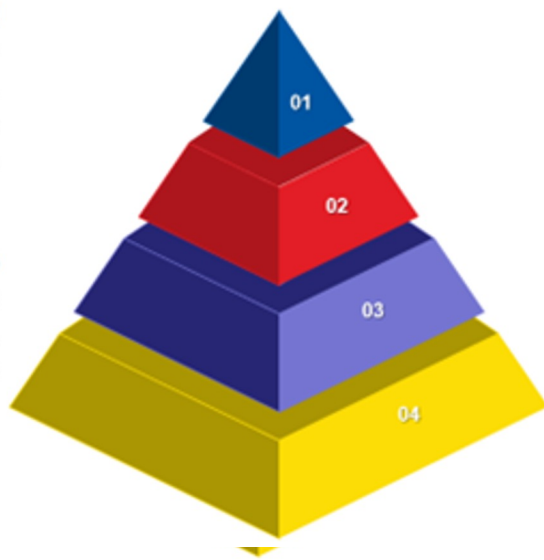
Just an API is not enough!

## 01 European Information Model

Definitions and Standards in EQF Recommendation, Diploma Supplement, Europass Decision, etc. supplemented by glossaries for additional terms

## 03 Application Profiles

Specific sets of rules for publishing learning opportunities, qualifications, accreditations and credentials in Europass



## 02 European Learning Model

A Linked Open Data publication of concepts to be used in educational and employment use cases throughout Europe

## 04 Extensions

National, Regional or Sectoral extensions of the data model & application profiles to deal with specific use cases

EduAPI / OOAPI

European Learning Model

HORA 3.0 (The Dutch Higher Education Reference Architecture version 3.0; work in progress, all objects and object definitions are proposals which have to be approved yet) with *object name in Dutch*

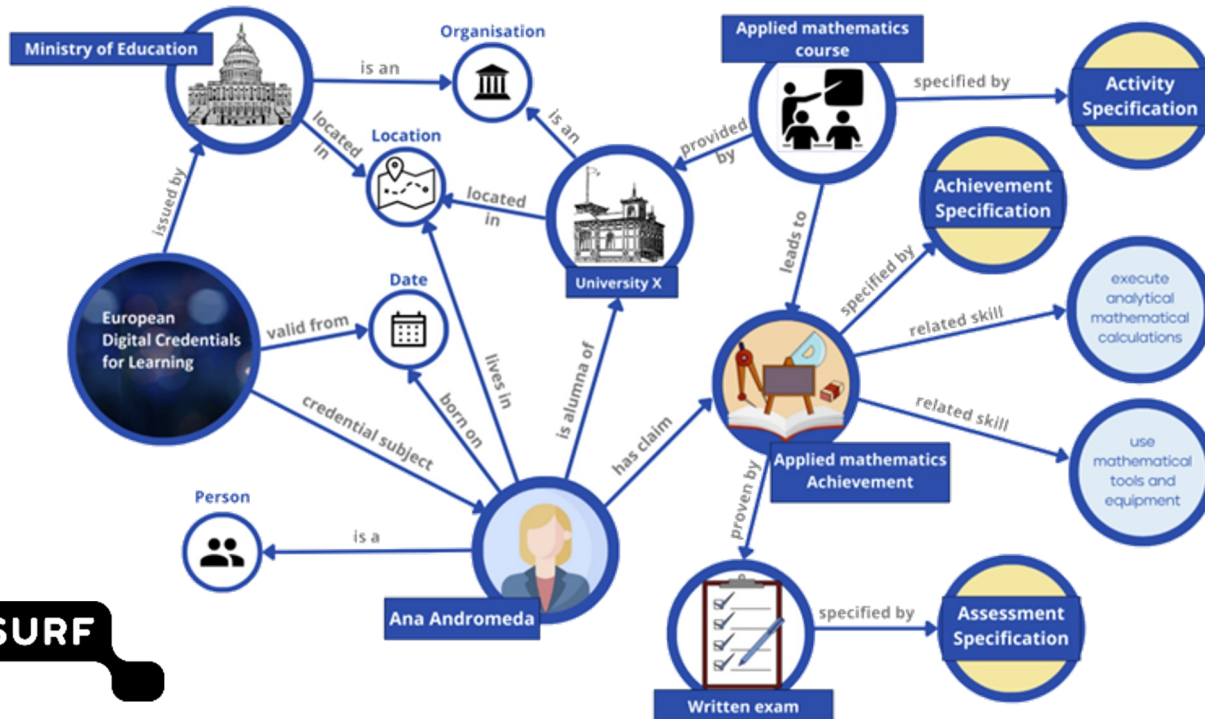
	Programme	Course	Component
<b>Learner</b> <i>Lerende</i>	<b>Program Result</b> <sup>16</sup> <b>Learning Achievement</b> <sup>16</sup> <b>Programme result</b> <sup>16</sup> <i>Programmaresultaat</i>	<b>Course Result</b> <sup>17</sup> <b>Learning Achievement</b> <sup>16</sup> <b>Course result</b> <sup>17</sup> <i>Onderwijseenheidresultaat</i>	<b>Component Result</b> <b>Learning Assessment</b> <b>Assessment result</b> <sup>1</sup> <i>Toetsresultaat</i>
<b>Offering Associations</b>	<b>Program Offering Association</b> <sup>12</sup> <i>Association</i> <sup>12</sup> <i>verbintenis</i>	<b>Course Offering Association</b> <sup>13</sup> <b>Course association</b> <sup>13</sup> <i>Onderwijseenheidverbintenis</i>	<b>Component Offering Association</b> <b>Learning association</b> <i>Leerverbintenis</i> <b>Assessment association</b> <i>Toetsverbintenis</i>
	<b>Learning Opportunity</b> <sup>7</sup> <b>Learning Opportunity</b> <sup>7</sup> <b>Learning Opportunity</b> <sup>7</sup> <i>aanbod</i>	<b>Course Offering</b> <sup>8</sup> <b>Learning Opportunity</b> <sup>7</sup> <b>Course offering</b> <sup>8</sup> <i>Onderwijseenheidsaanbod</i>	<b>Component Offering</b> <b>Learning Opportunity</b> <b>Learning opportunity</b> <i>Leergelegenheid</i> <b>Assessment opportunity</b> <i>Toetsgelegenheid</i>
	<b>Learning Achievement Specification</b> <sup>1</sup> <b>Programme (specification)</b> <sup>1</sup> <i>Programma(specificatie)</i>	<b>Course</b> <sup>2</sup> <b>Learning Achievement Specification</b> <sup>1</sup> <b>Course (specification)</b> <sup>2</sup> <i>Onderwijseenheid(specificatie)</i>	<b>Component</b> <sup>3</sup> <b>Learning Activity Specification</b> <b>Learning component</b> <i>Leercomponent</i> <b>Learning Assessment</b> <b>Assessment component</b>



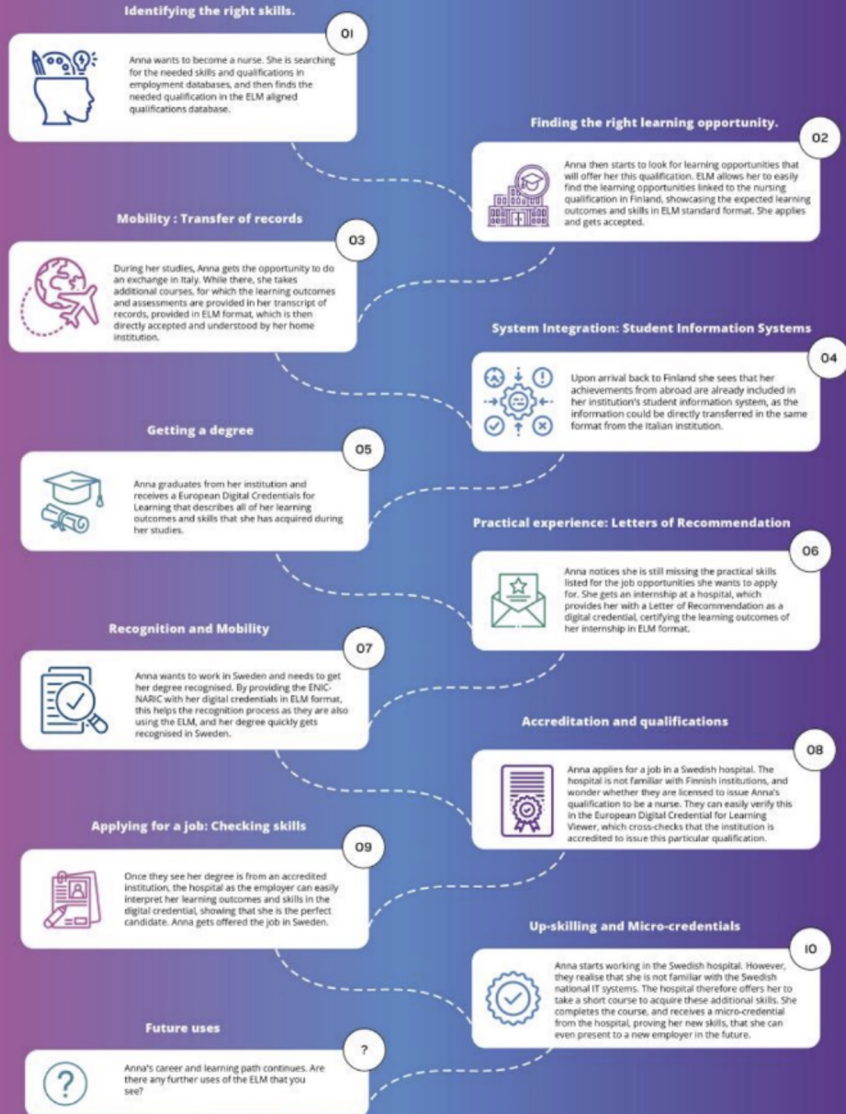


# What is ELMv3

- ELMv3 is the basis of EDC
- Long-term support version
- Multilingual
- Introduction of new properties based on demand



## The European Learning Model: Free-movement and life-long learning





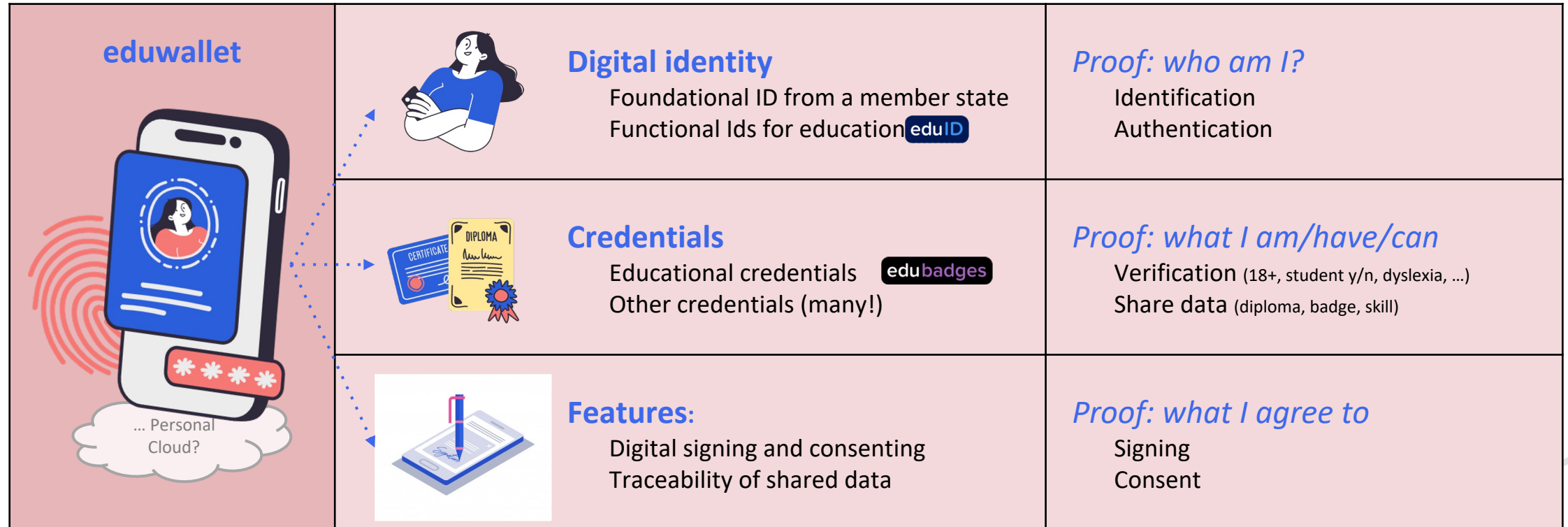
# Eduwallet testing lab

*Moving badges and mobility to a new technology*



# | What is an (edu)wallet?

A wallet is using the concept of self sovereignty (SSI) for **digital identity**, **credentials** and several other **features**



▶▶ A convenient app on your smartphone + probably acces to personal store in the cloud

# | Dutch eduwallet testing lab



Create an open testing lab for internal and external usage

First phase: realise use cases based on a consistent set of testdata

Next phases: use cases that matter to institutions and learners

Wallets, issuers and verifiers using existing products (conformant to base set of standards)

Connect to existing (SURF) services:


SURFconext (-> Edugain), eduID, eduBadges (-> OpenBadges)

OpenID4VC (DIIP) and OpenID Federation

Importing and combining insights and results from other partners



**Thank you for  
your attention!**

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**SURF**