

Speakers

Gill Ferrell & Xavi Aracil

Digital Education Regulars
April 18, 3-4 p.m. CEST



An open digital education ecosystem for
credentials in Europe

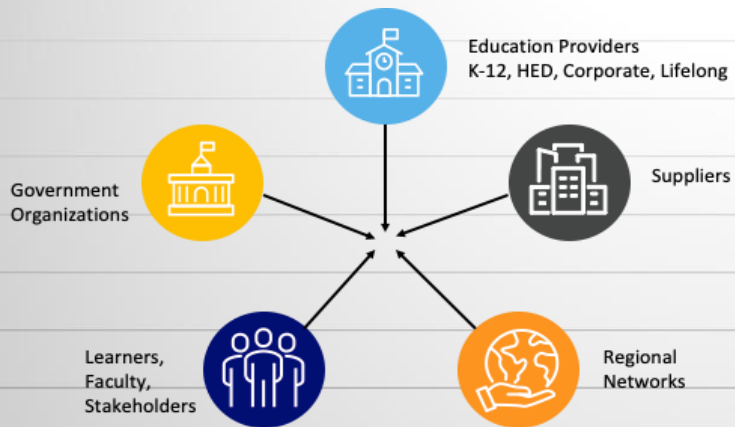


1EDTECH[®]
Power Learner Potential

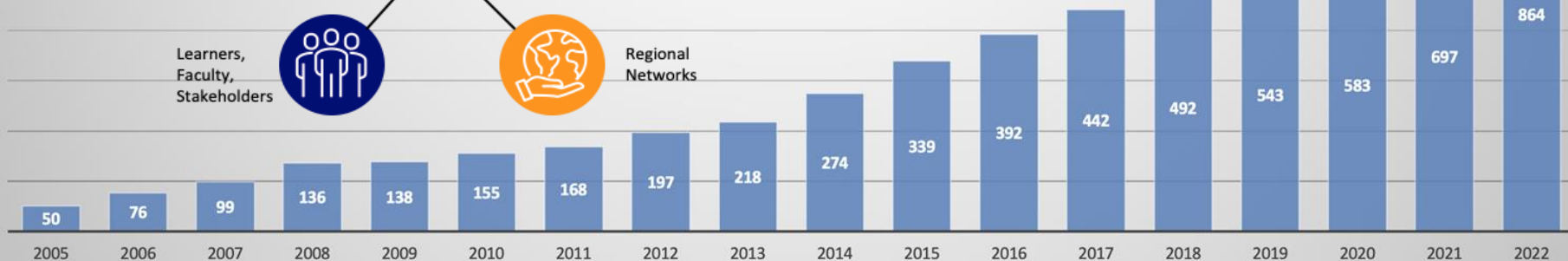
1EdTech is the Member Community

Together we power learner potential

1EdTech Consortium MEMBER ORGANIZATIONS



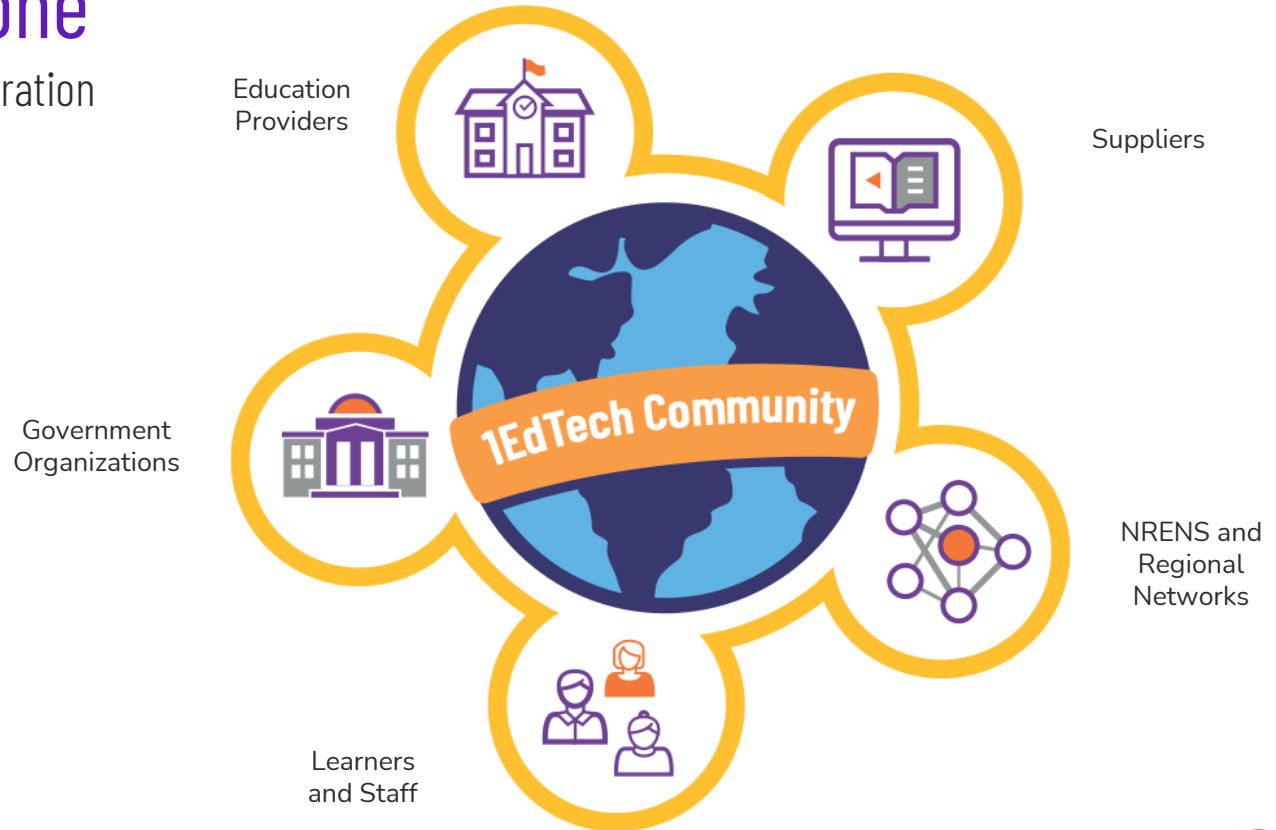
Today
1031
members
32 countries



■ 1EdTech Member Organizations 2005-2022

The power of one

A uniquely effective collaboration



Some of our European Members



Why do we need 1EdTech in Europe?

Our European community supports a unique set of needs

The EU is the world's largest economy and the world's largest trading bloc.

But, as an edtech market - it's complicated!

- national differences how education is governed and managed
- many languages
- different pedagogies
- national laws that sits alongside Europe-wide laws
- procurement can be different to other parts of the world
- focus on public values





Today's session

Outline of topics

- What are open standards and why do they matter?
- How does the 1EdTech community develop and maintain standards?
- Standards relating to student mobility
- How does our work on credentials fit in the European landscape?



1EDTECH OPEN STANDARDS

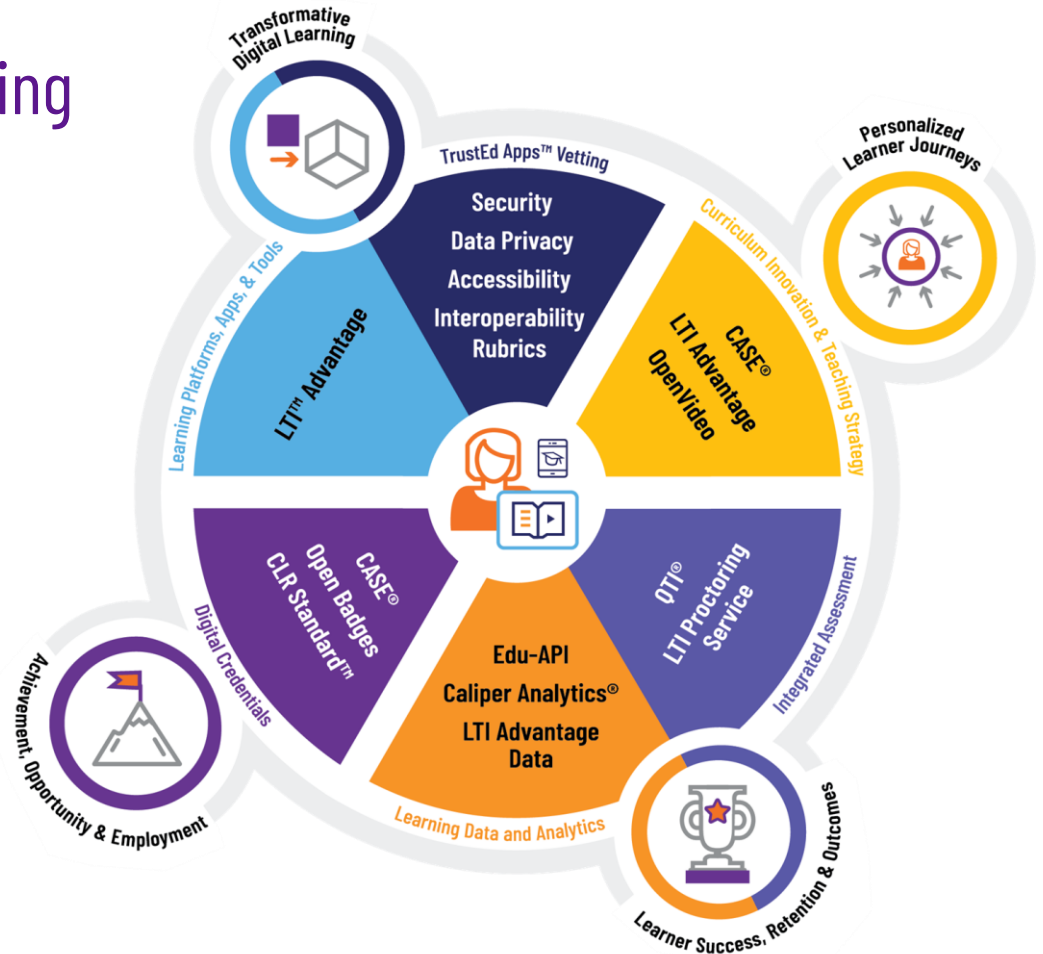
The fastest and most cost-effective way to achieve product integrations



The ecosystem we are shaping

Open, Trusted, Innovative

- **Open:** connectivity based on open standards as the first option; choice enabling
- **Trusted:** safe, transparent, verifiable, engendering lasting partnerships
- **Innovative:** accelerating advancements in education and digital learning





Value for European education providers

We help you to ...

- spend less time and resource on integrations
- improve the user experience for learners, teachers and support staff
- avoid vendor lock in
- choose tools to fit your pedagogy and processes knowing they work together
- ensure best practice in procurement
- influence product development
- keep up to date with technology trends and market insights
- learn from other centers of excellence



1EdTech Specification Suite

The set of specifications published by 1EdTech

- [Accessibility / Access for All \(AfA\)](#)
- [Accessible Portable Item Protocol](#)
- [Caliper Analytics](#)
- [Competency Definitions](#)
- [Content Packaging](#)
- [Common Cartridge / Thin Common Cartridge](#)
- [Competencies & Academic Standards Exchange](#)
- [Comprehensive Learner Record](#)
- [Course Planning & Scheduling](#)
- [Digital Repositories](#)
- [Enterprise](#)
- [Enterprise Services](#)
- [ePortfolio](#)
- [General Web Services](#)
- [Interactive WhiteBoard/ Common File Format](#)
- [Learner Information](#)
- [Learning Design](#)
- [Learning Information Services](#)
- [Learning Object Discovery and Exchange](#)
- [Learning Tools Interoperability](#)
- [LTI Resource Search](#)
- [Meta-data](#)
- [OneRoster](#)
- [Open Badges](#)
- [Question and Test Interoperability](#)
- [Resource List Interoperability](#)
- [Shareable State Persistence](#)
- [Simple Sequencing](#)
- [Tools Interoperability](#)
- [Vocabulary Definition Exchange](#)

First

Latest

A wide range of specifications/versions published since 1999 (more than 100).

We have an extensive legacy responsibility.



1EdTech open standards

- ✓ 1EdTech Certification gives you the highest level of trust
- ✓ Products must be recertified annually
- ✓ Active 1EdTech membership is required to maintain certification

Together We All Go Forward Faster

Caliper Analytics[®]

Collect click-stream data from all digital resources to measure learning activities and effectiveness.

CASE[®]

Competencies and Academic Standards Exchange[®]

A framework for digitally transmitting learning standards and competencies to align content.

CLR Standard[™]

Comprehensive Learner Record Standard[™]

Digitally capturing and communicating learning experiences & achievements in verifiable form.

Common Cartridge[®]

Thin Common Cartridge[®]

Package and exchange learning content and assessments from a variety of resources.

LTI[™] Learning Tools Interoperability (LTI)

LTI[™] Advantage

Enables deep and secure integration of learning platforms and apps/tools for better student experiences.

OneRoster[®]

Allows for the secure exchange of data between an institution's teaching and learning systems and tools.

Open Badges

Share verified skills and achievements with learning providers and employers across multiple platforms.

QTI[®]

Question and Test Interoperability[®]

Enables the exchange of assessment content and data to be accessible and meet testing needs.

Additional 1EdTech certification standards include LTI Resource Search, OpenVideo, and Data Privacy.

Latest versions

Empowering educators with evolving edtech



1EdTech certification saves time and money for both the supplier and institution.



OneRoster[®] 1.2

Simplifies Work for Educators

Easily collect and deliver data from your entire ecosystem, providing educators with the time to identify challenges and nurture student success.

LTI[™] 1.3

Offers Better Security

Unlock the only 1EdTech standard to leverage the new privacy and security model, offer a streamlined upgrade path, and full support from major platform providers.

QTI[®] 3

Web-friendly Markup

Access accessibility and internalization features, including new text-to-speech markup and presentation classes for vertical text in assessments.



Latest versions

Empowering educators with evolving edtech



1EdTech certification saves time and money for both the supplier and institution.



Rubrics

Accessibility, Generative AI Data, and Security Practices

Assessing the posture of edtech suppliers toward policies and programs for their products. Will be included in the TrustEd Apps Management Suite.

LTI

Advantage Data

LTI™ Advantage and Caliper Analytics® combined to lower cost and make it easy to reap the power of trusted data to help manage your ecosystem.

Open Badges 3.0

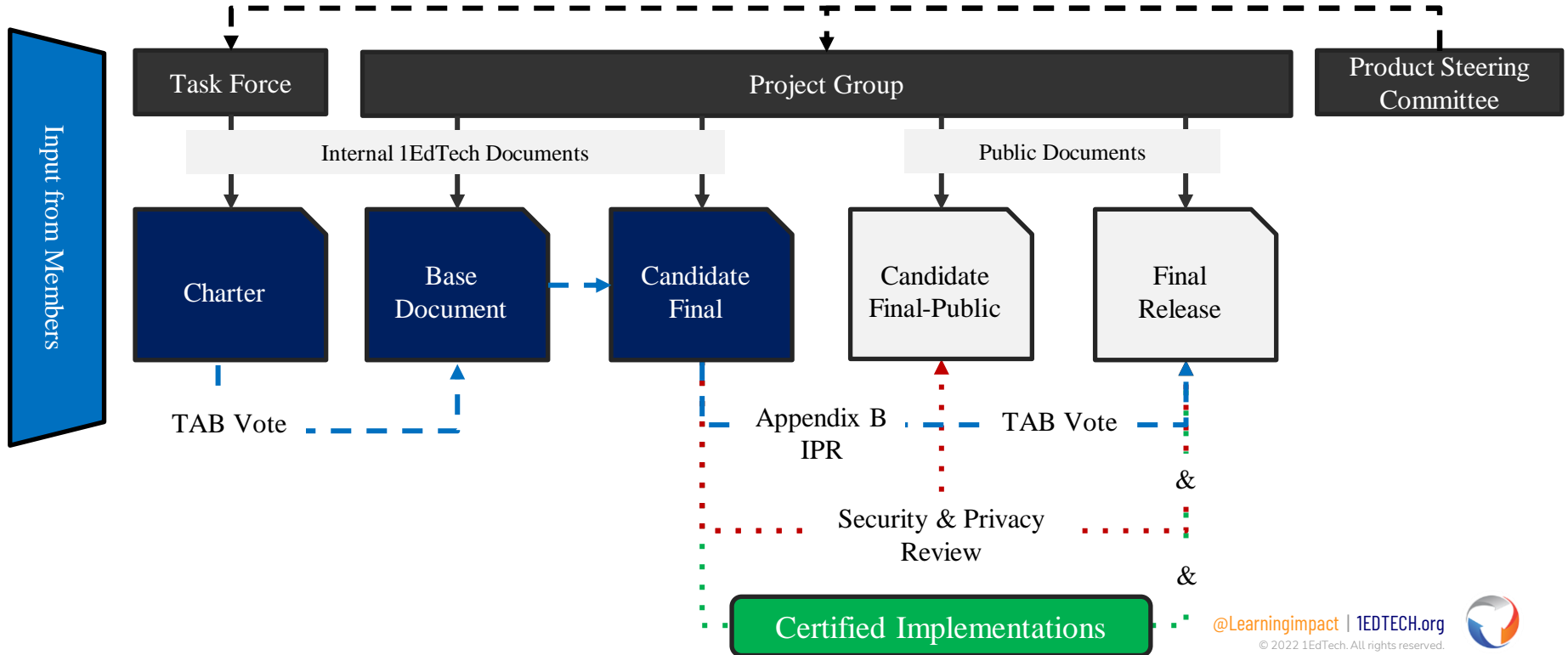
The benefits of Open Badges 2.0 and so much more!

Cryptographic proof layers for security and privacy, compliant with W3C Verifiable Credential Data standard, aligned with CLR 2.0 standard, and native API for learning mobility support.

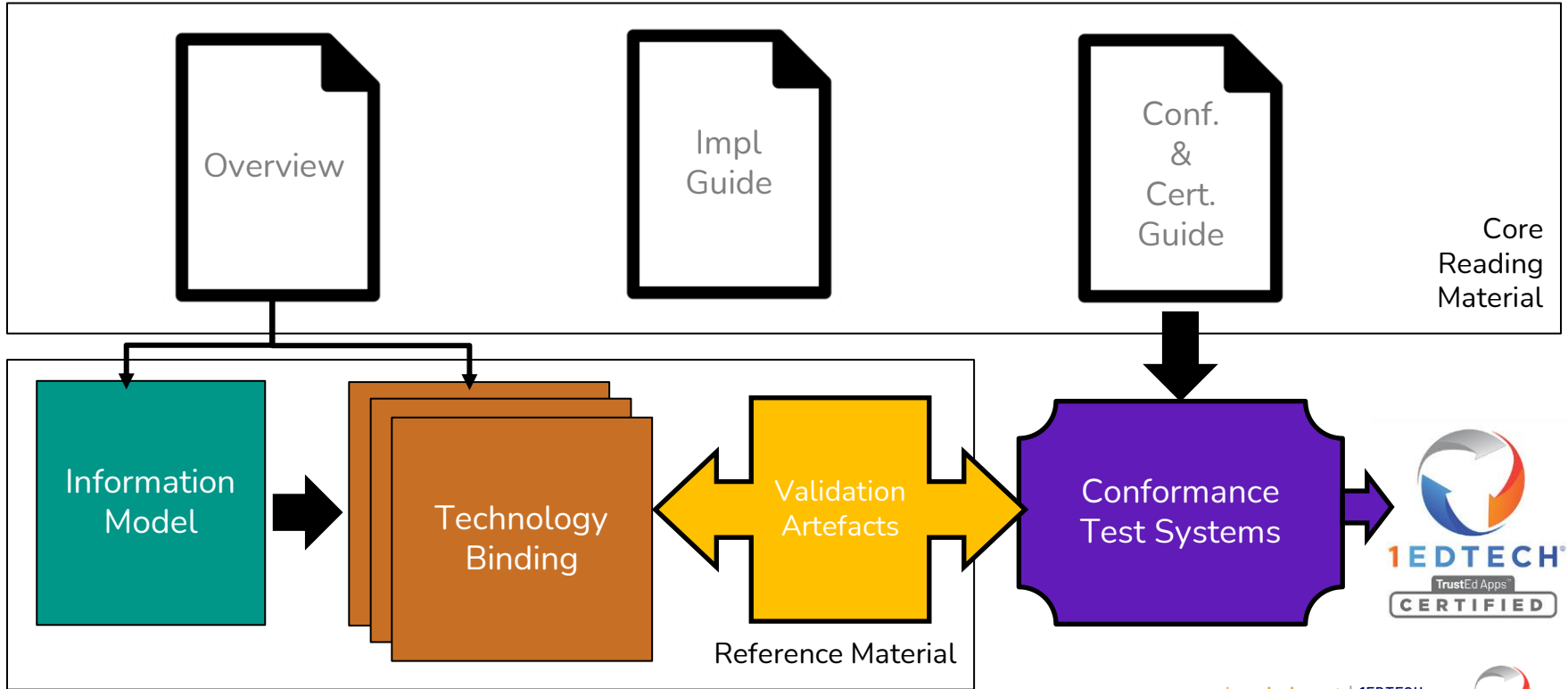


Development Process Work Flow

The steps from start to finish for creating a 1EdTech specification



Documenting a 1EdTech Specification



Sources of Information

Getting ALL the information you want (Login Required)

- The 1EdTech website at:
<https://www.1edtech.org>
- 1EdTech Events Calendar:
<https://www.1edtech.org/events> (Open to the Public)
- Series of 5-minute duration 1EdTech specifications videos (18 available)
Playlist: <https://www.youtube.com/playlist?list=PLysC4Zd9-FmD773cUYratfgiwBtLGr7Jb>
- Access working documents and raise issues at (1EdTech GitHub Repos):
<https://github.com/1EdTech>



LTI

Learning Tools Interoperability

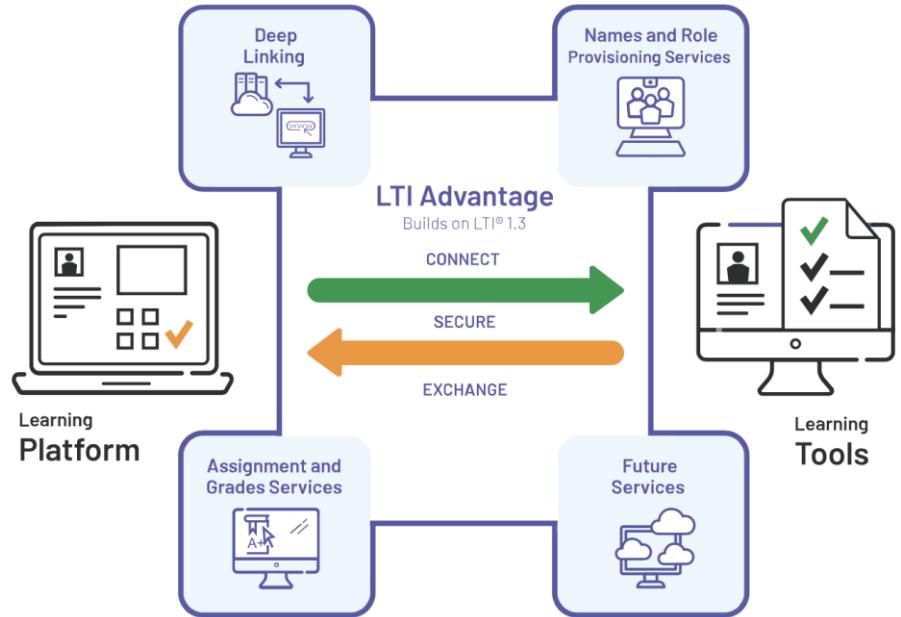
Learning Tools Interoperability (LTI)[®] Advantage

❖ LTI 1.3 Core

- ❑ IMS Security Framework

❖ LTI Extensions

- ❑ LTI Deep Linking
- ❑ LTI Names & Role Service
- ❑ LTI Assignment and Grade Service



Next Generation LTI Advantage

We Are Extend the Capabilities of the Current LTI Advantage

- ❖ Cookie Problem Resolution
- ❖ Dynamic Registration 1.0
- ❖ Caliper Analytics Connector 1.0
- ❖ Course Group Service 1.0
- ❖ Submission Review 1.0
- ❖ Proctoring Service 1.0
- ❖ Data Privacy Launch 1.0
- ❖ **LTI Resource Search 1.0**
- ❖ Support for Assessment Tools
 - LTI Assessment Tool Best Practices Guide
 - LTI and Personal Needs & Preferences Guide
 - LTI Resource Session Control Guide

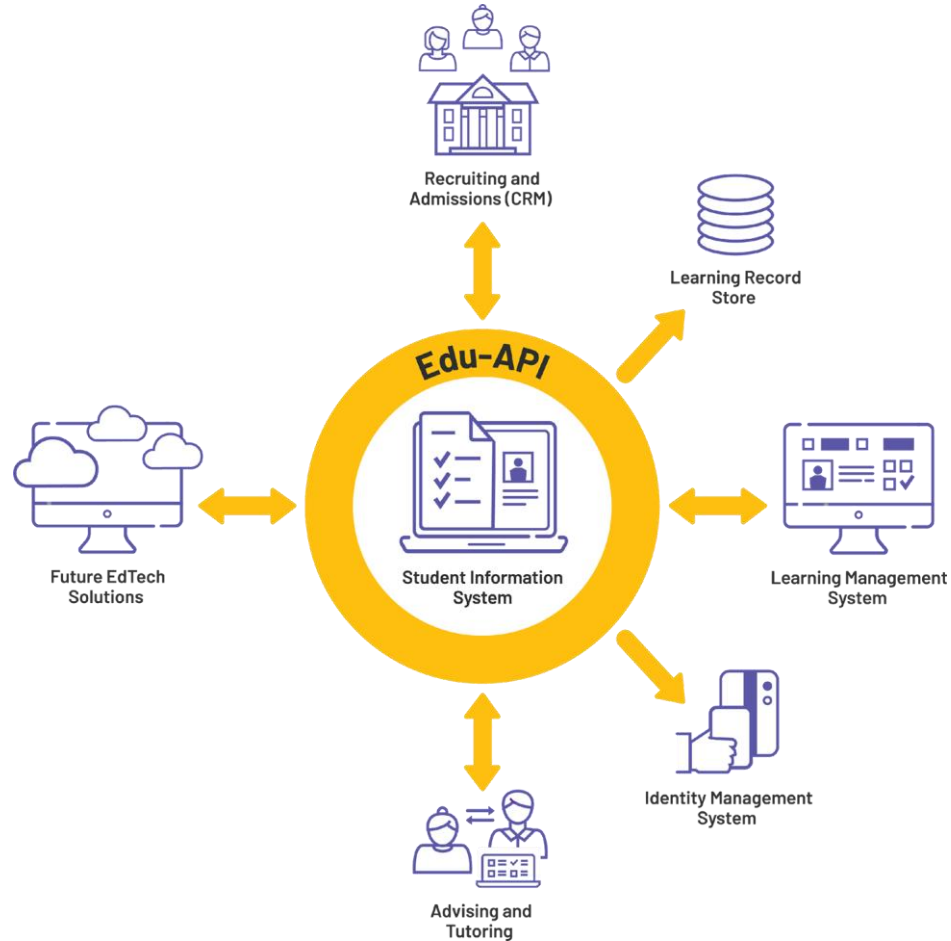


SIS - LMS

Administrative data exchange

EduAPI

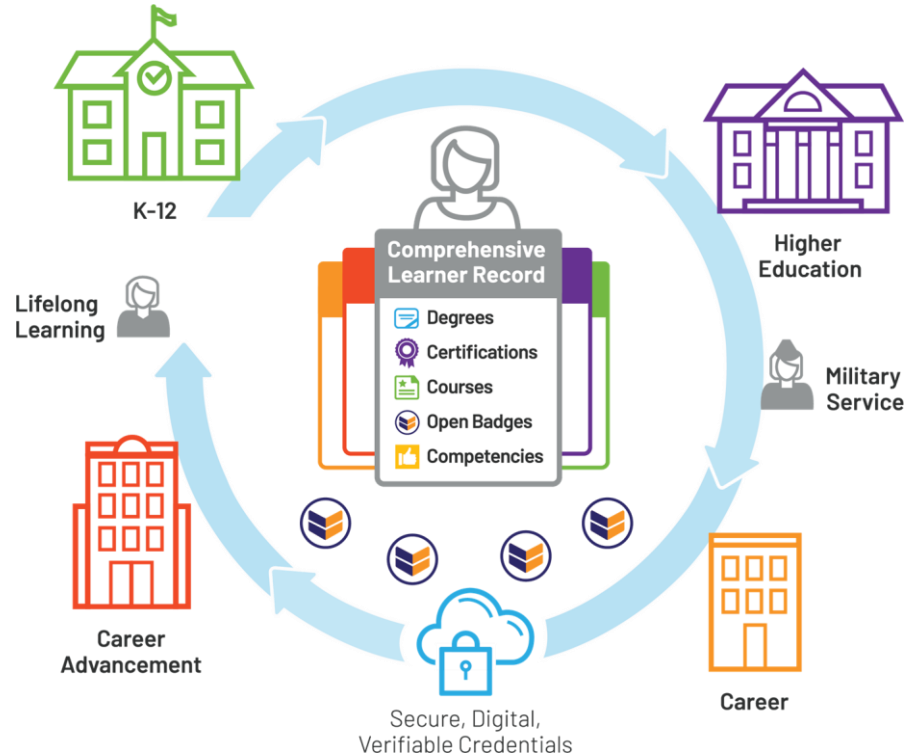
V1p0 Candidate Final



Digital Credentials



Digital Credentials Ecosystem



Open Standards for Learning and Employment Records

Open
Badges



Token Representing
an Achievement

Comprehensive Learner
Record (CLR)



Longitudinal Record of
Achievements and
Milestones

CASE



Publish and Relate
Skills

1Edtech Open Standards Enable an Interoperable Ecosystem



Specifications

Candidate Public Final



Open Badges 3.0

<http://www.imsglobal.org/spec/ob/v3p0>



Comprehensive Learner Record 2.0

<https://www.imsglobal.org/spec/clr/v2p0>

Compatible with Emerging **Digital Wallet** Standard

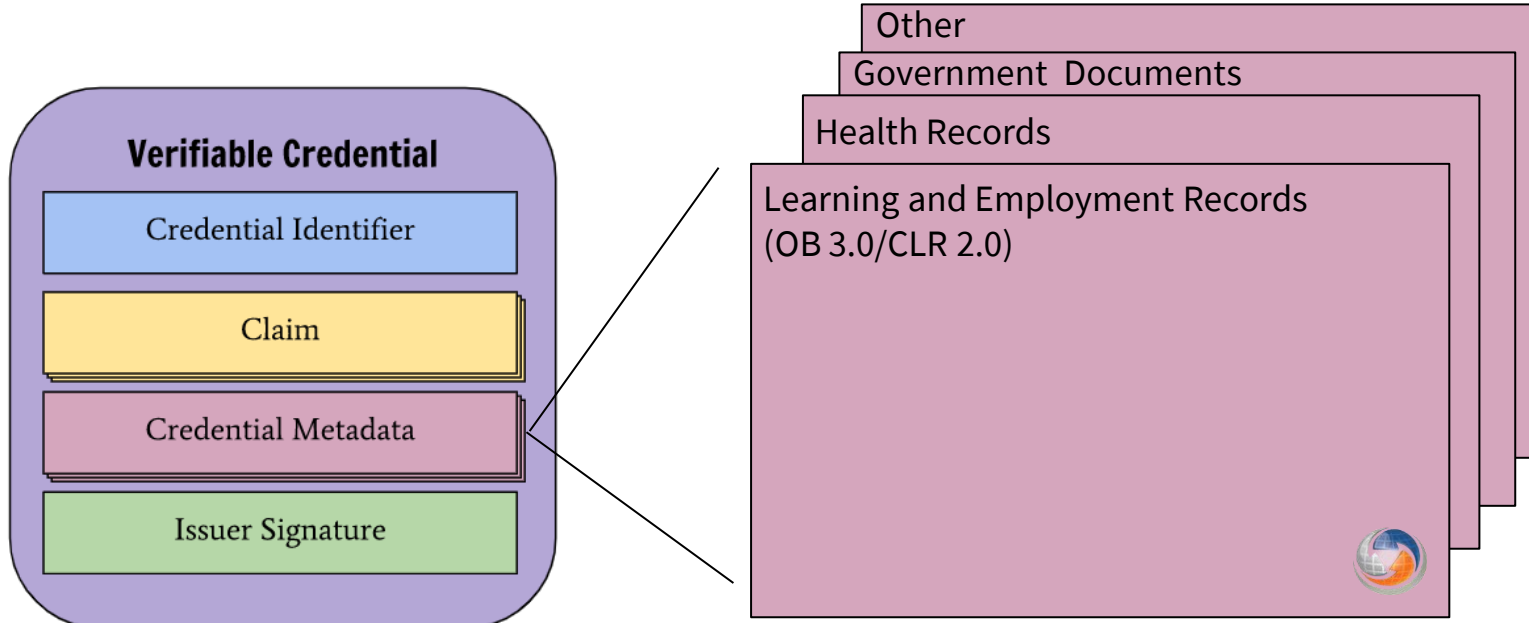


Figure 5 The basic components of a verifiable credential.

*Candidate Final Release Status

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Verifiable Credentials

W3C VC Data Model 2.0

OB 3.0 and CLR 2.0 are a **profile** of VC:

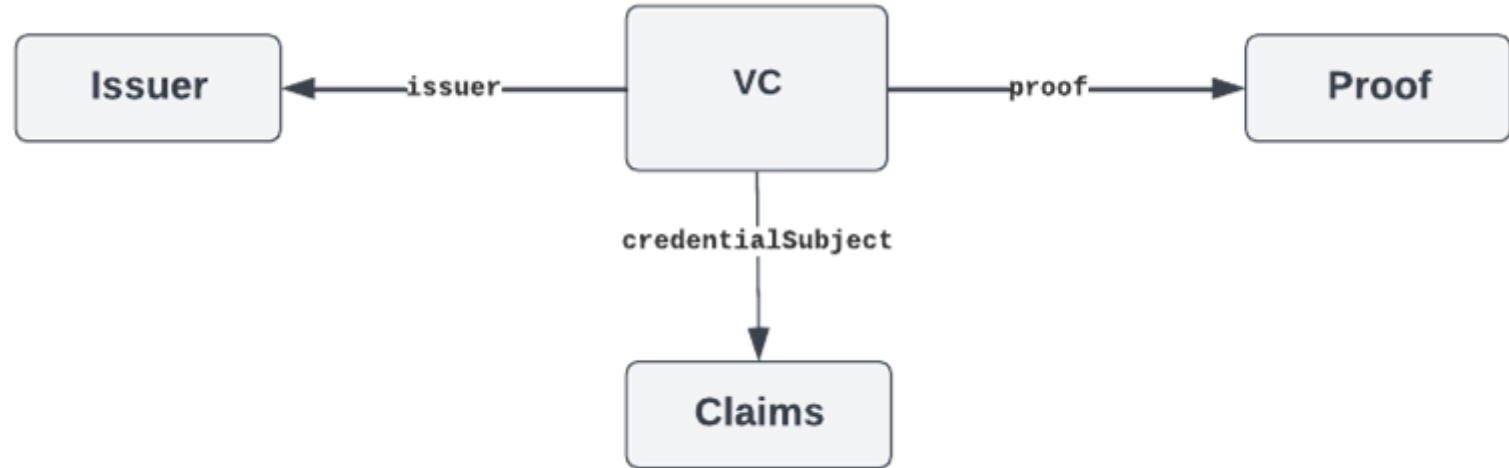
- Follow VC's Data Model v2.0
- Define its own credential types
- Add additional constraints to the model
- Propose extensions



<https://www.w3.org/TR/vc-data-model-2.0>



W3C's Verifiable Credentials



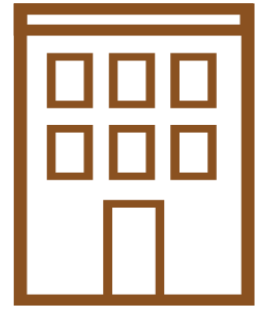
Actors



Issuer



Holder



Verifier

Proof

Verifiable Credentials



- Cryptographic mechanism.
- Used to detect tampering and verify authorship.
- A credential may include multiple proofs.
- **External** (JSON Web Token) or **Embedded**.
- (Embedded) *proof* property.
- (Embedded) signature, signing entity, and signing date.



Proofs

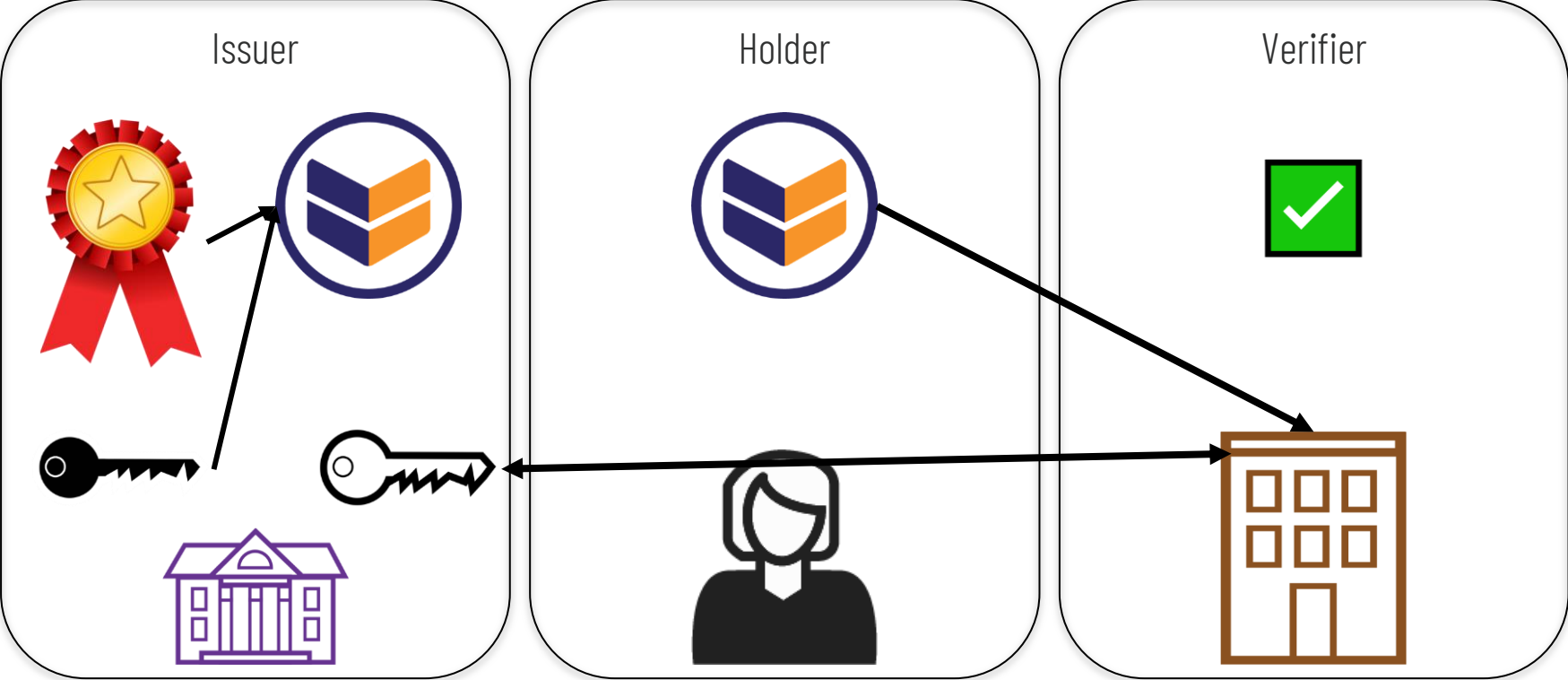


Image by [OpenClipart-Vectors](#) from [Pixabay](#)

Open Badges (OB)

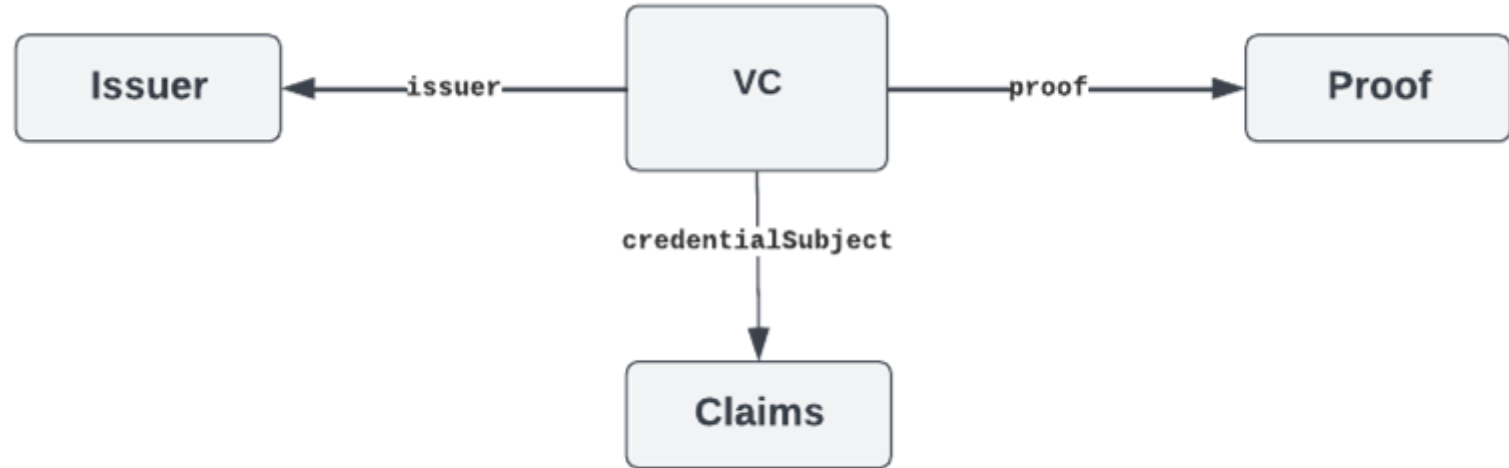
OPEN BADGES

Data & Information **Inside**

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

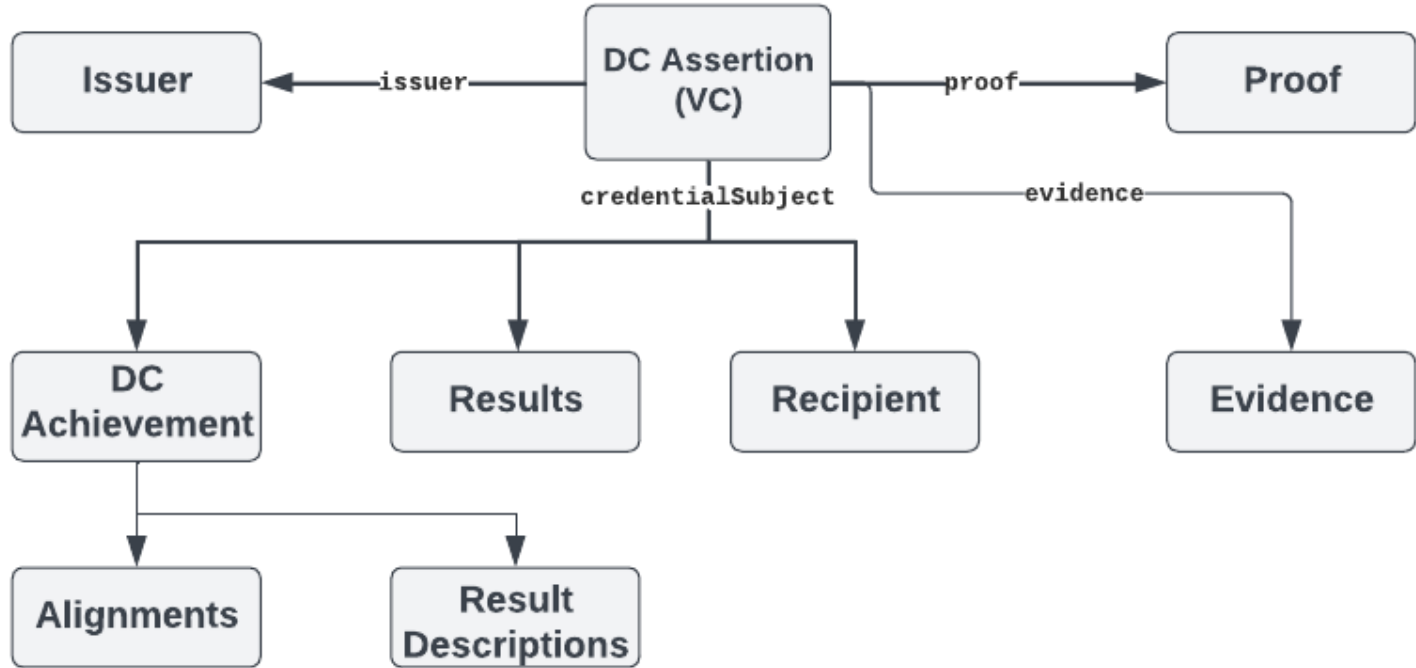


W3C's Verifiable Credentials



Open Badges 3.0

AchievementCredential

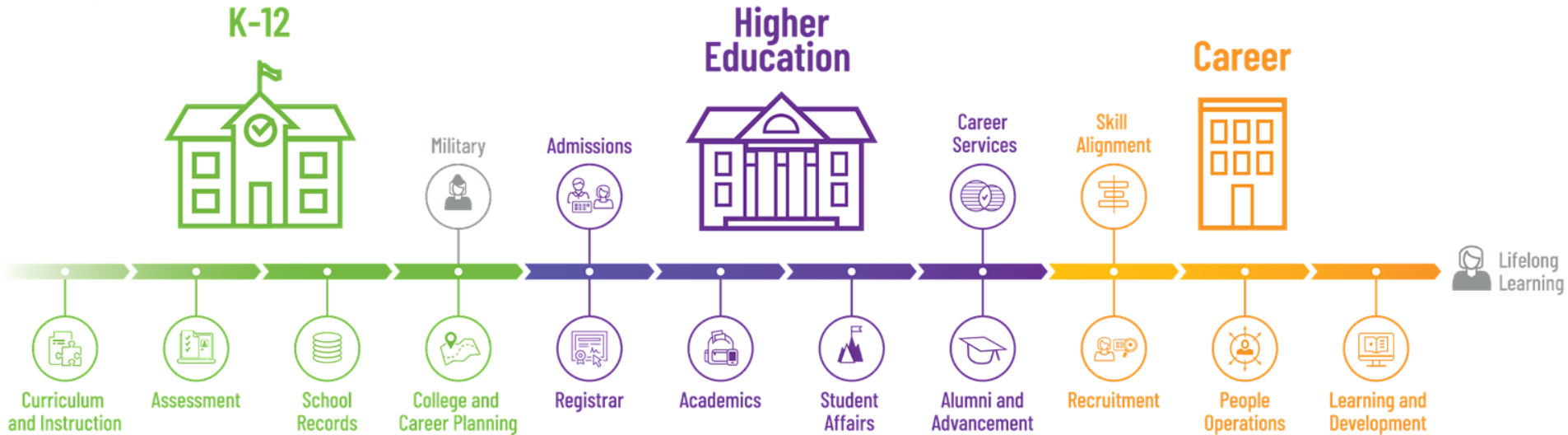


Comprehensive Learner Record Standard (CLR Standard)

Open Standard for Personal Achievements



Comprehensive Learner Record



Power Learner Potential



Compatible with Emerging **Digital Wallet** Standard

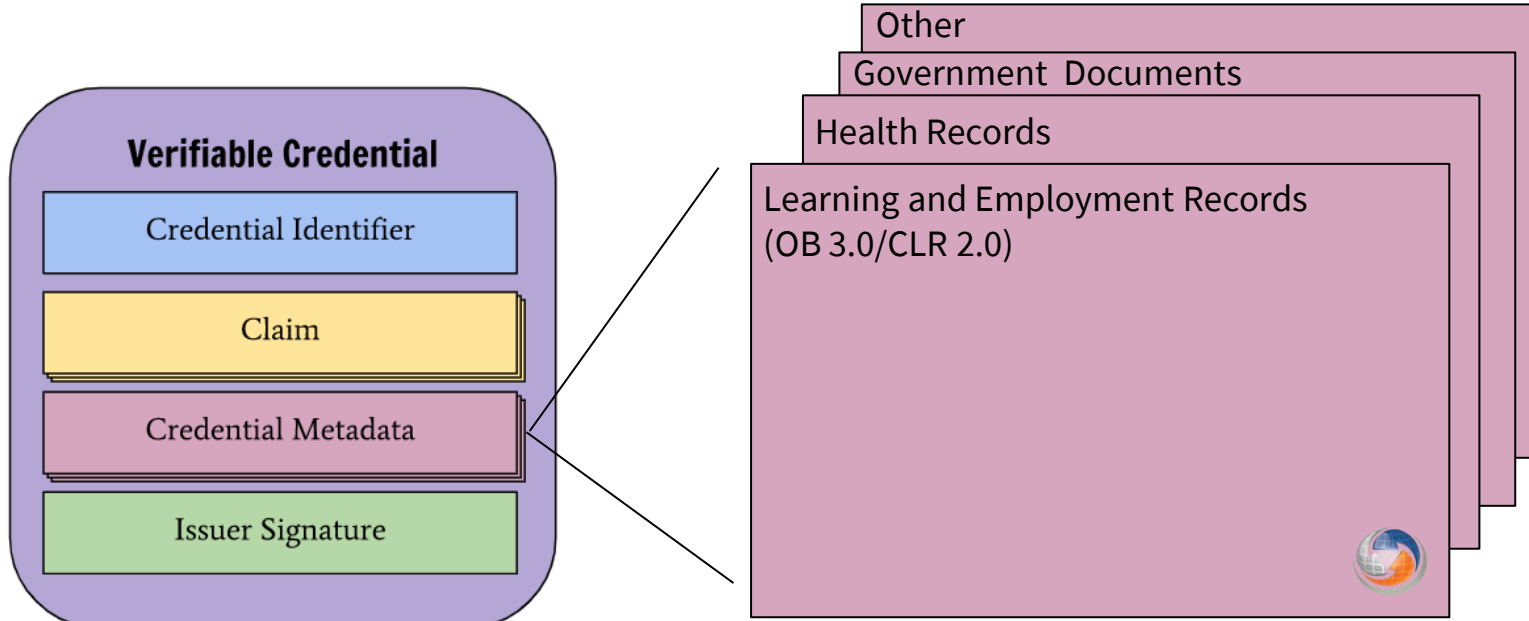


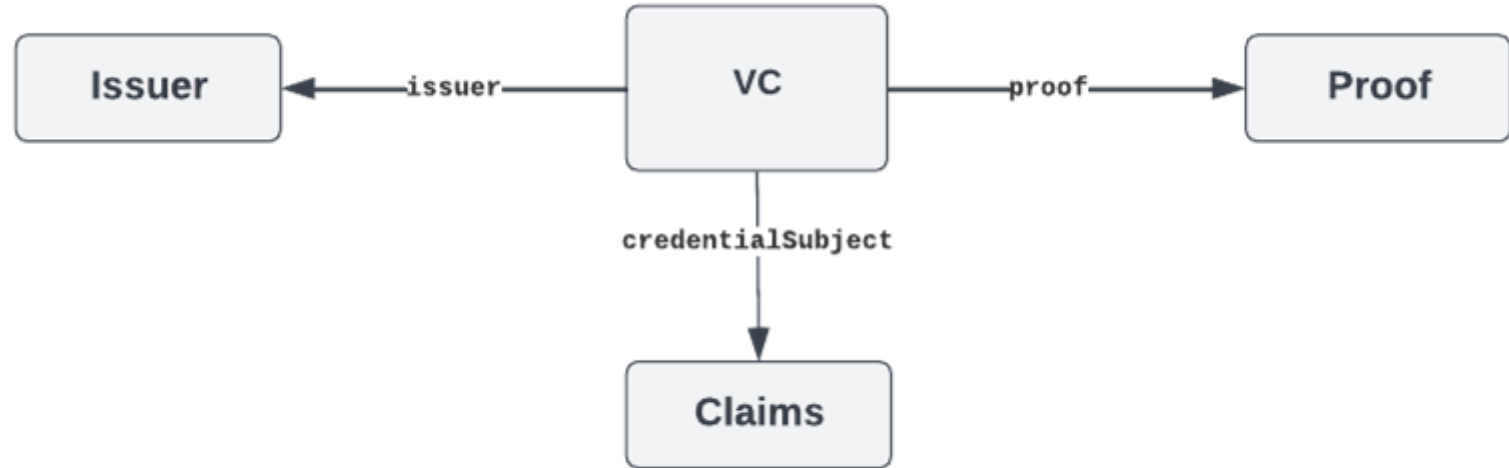
Figure 5 The basic components of a verifiable credential.

*Candidate Final Release Status

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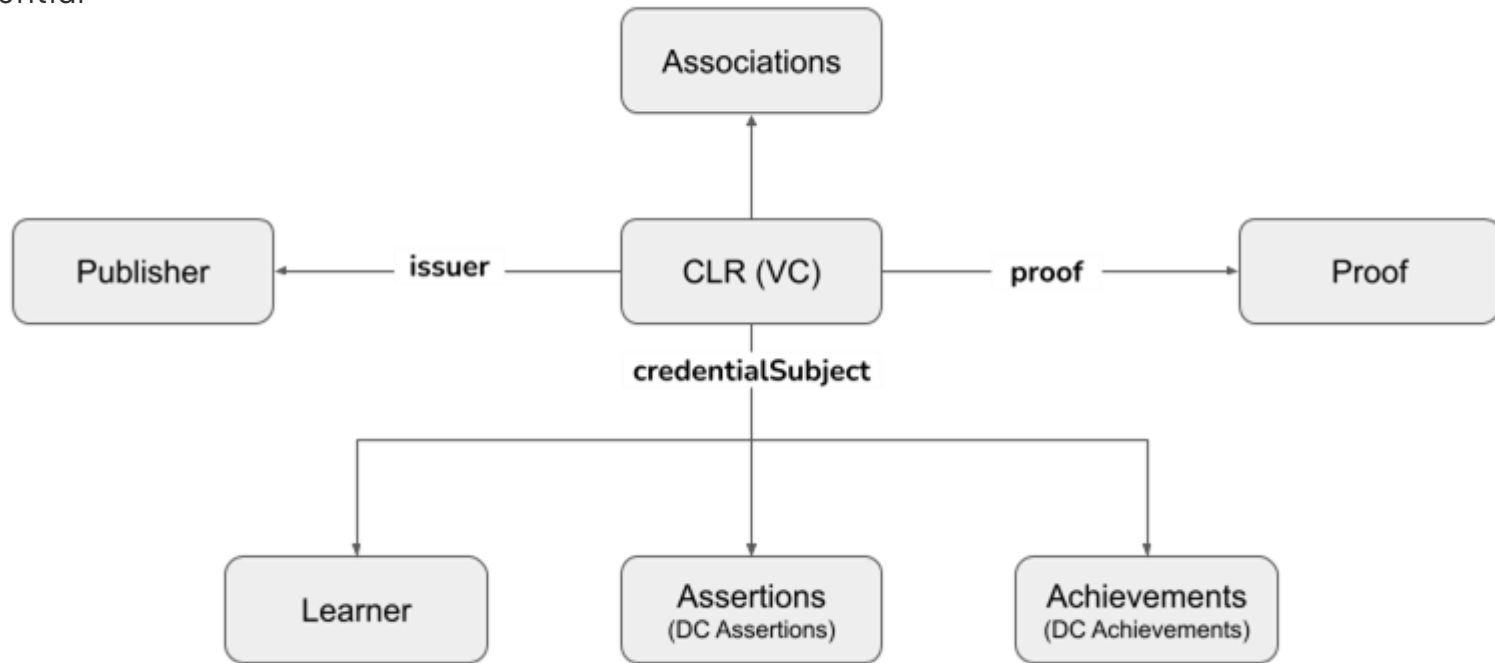


W3C's Verifiable Credentials



Comprehensive Learner Record 2.0

ClrCredential

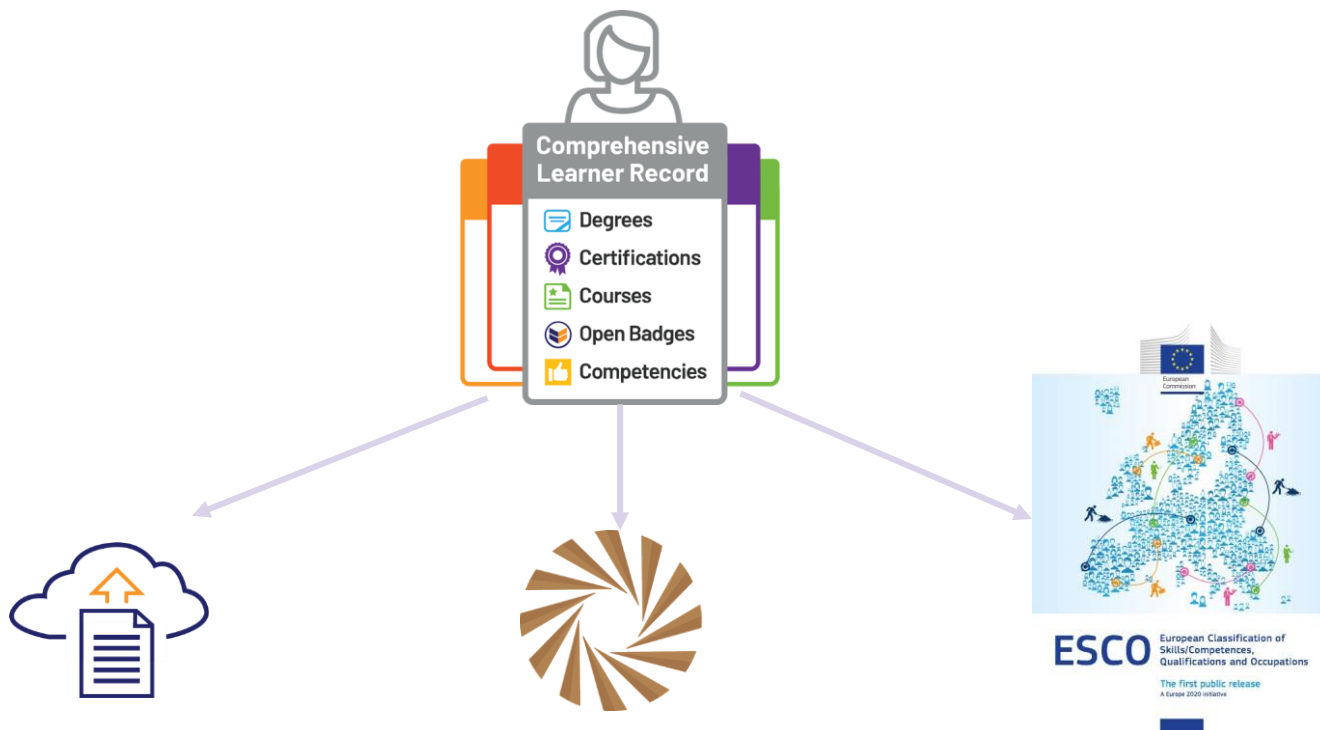


Alignments

Linking a Credential with skills

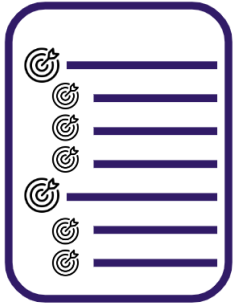


Alignments



CASE

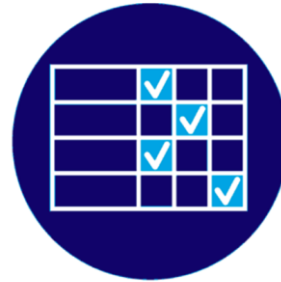
A digital standard format for publishing and exchanging competencies and learning objectives



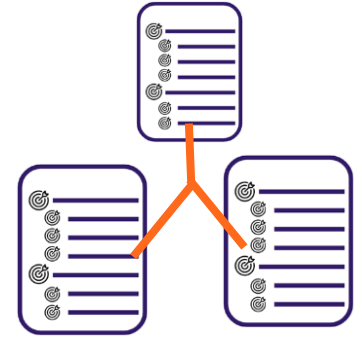
CASE Framework
A hierarchical document
with learning objectives



CASE Framework
Item
Each individual
academic objective



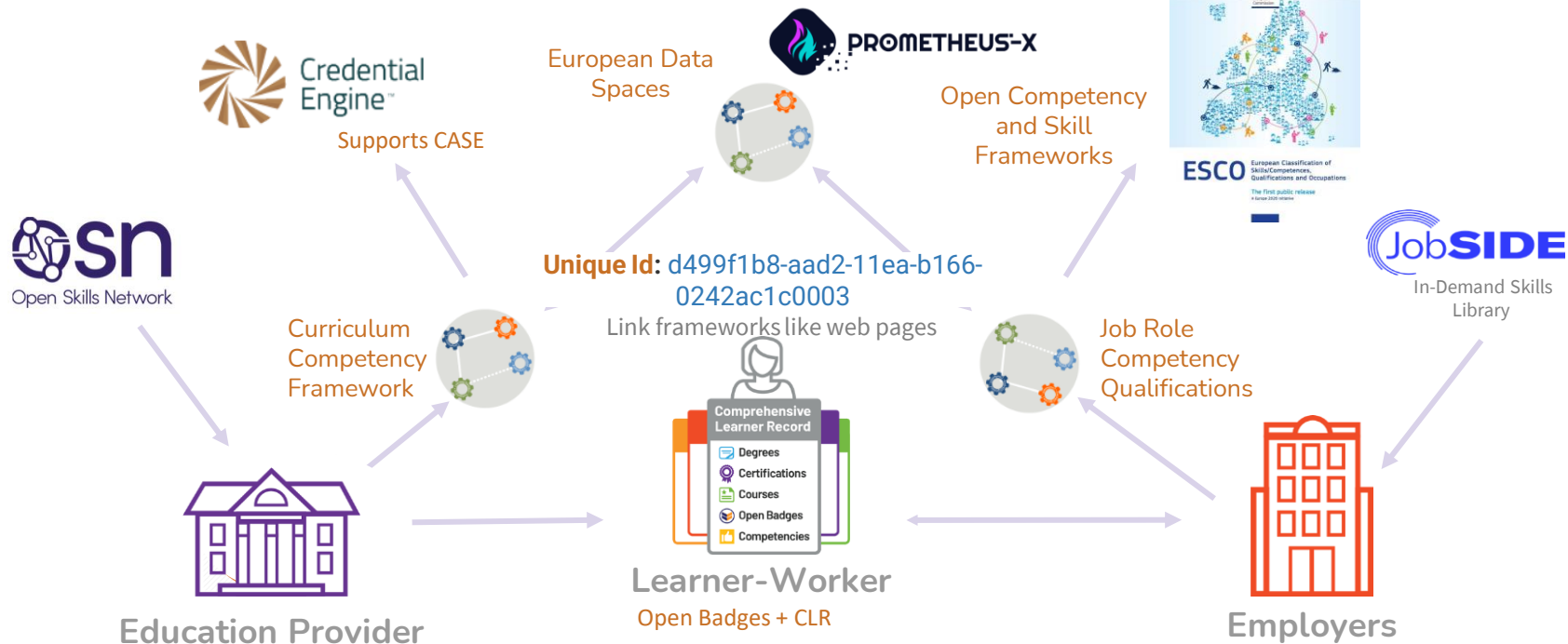
Rubrics to identify the
depth of knowledge
for each standard



Associations (crosswalks)
to other standards or other
documents

CASE Connects an Expanding Credentials Ecosystem

An open standard for publishing frameworks in a digital form for interconnection

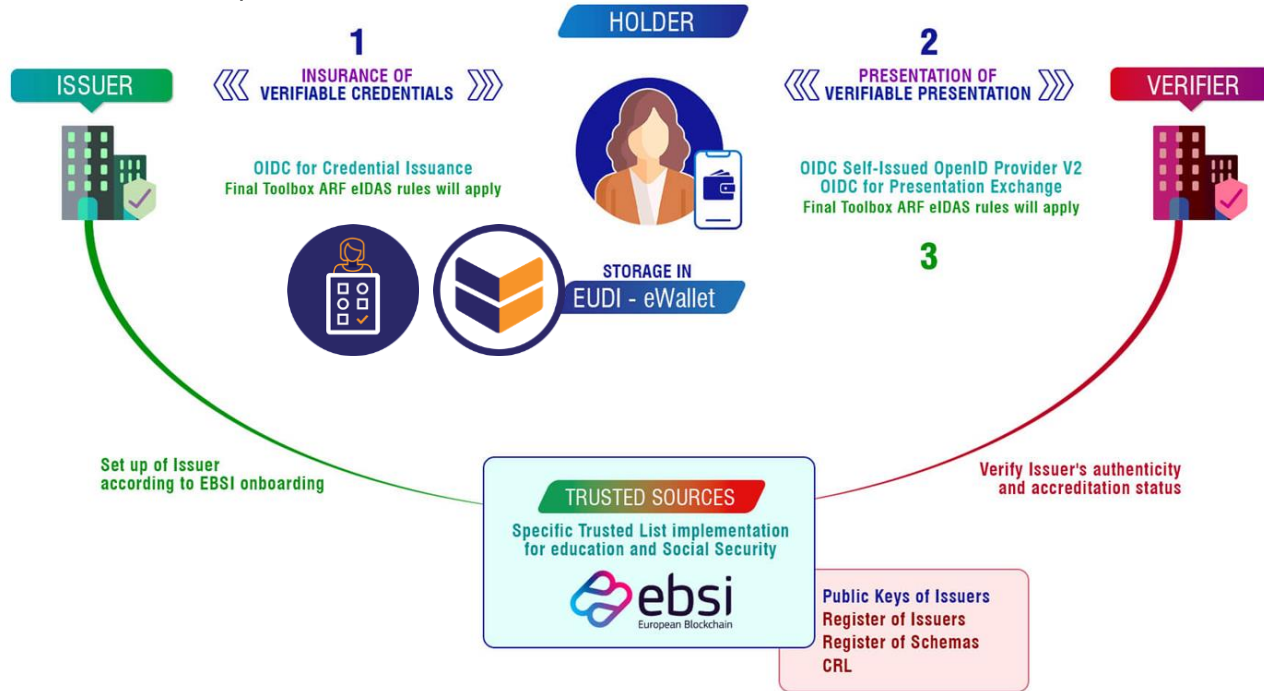


European Landscape



DC4EU

Digital Credentials For Europe



ELM

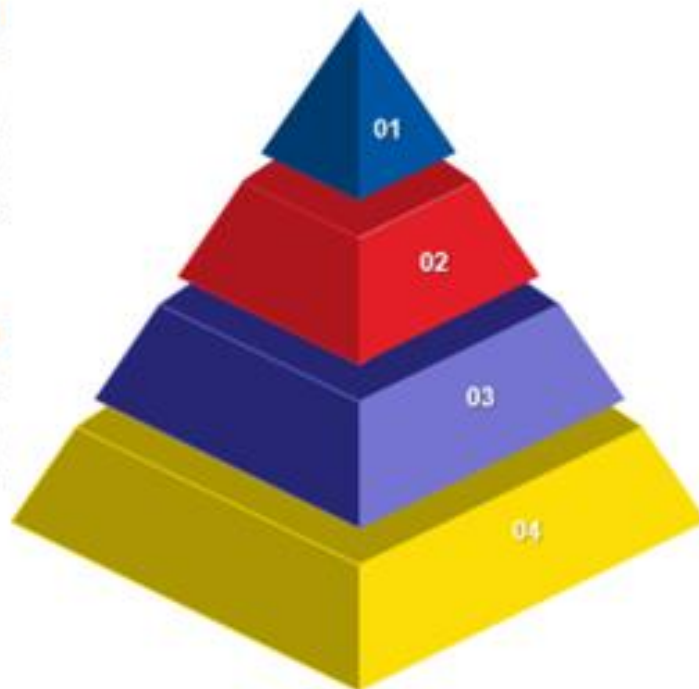
European Learning Model

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

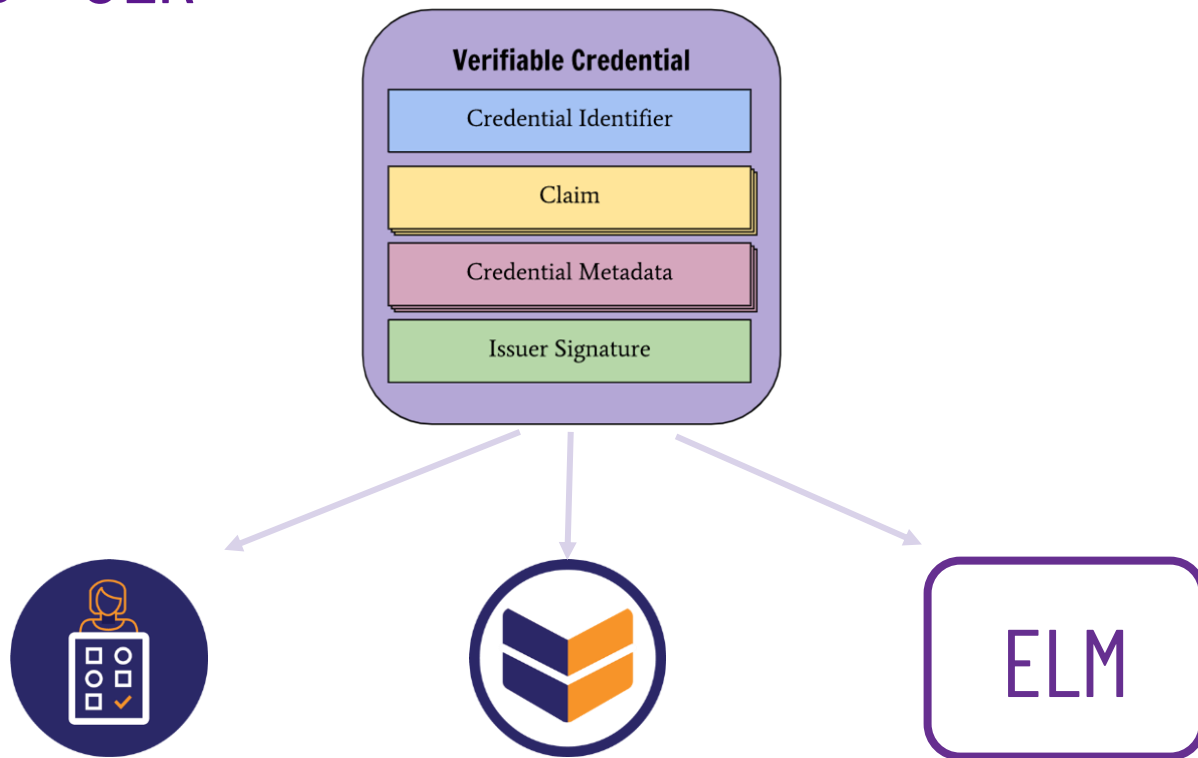
A Linked Open Data publication of
concepts to be used in educational and
employment use cases throughout
Europe

04 Extensions

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

ELM - OB - CLR

Siblings





Join us in Barcelona

Call for proposals and registration open now – award entries coming soon



Learning Impact
EUROPE
CONFERENCE 2024

<https://www.1edtech.org/event/europe/2024>

THANK YOU

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