Updates to European Digital Credentials – Release 2.0

An overview of recent changes
• Updates from the European Commission
• From ELM v2 to ELM v3 – What has changed?
• News on Interoperability
  • From XML to JSON LD
  • Backwards compability
  • Re-signing credentials
• Demo - Improvements to Mandated Issue and changes to the Online Credential Builder
• Upcoming Support availabilities
• Future Roadmap
FROM ELM V.2 TO ELM V.3 : WHAT CHANGED?
What is the ELM

Ministry of Education

Organisation

Location

Date

European Digital Credentials for Learning

is an

issued by

located in

valid from

is a

is an

is an

Batch X

Person

Ana Andromeda

is a

is an

has claim

credential subject

is alumni of

lives in

proven by

is an

Applied mathematics course

provided by

Activity Specification

specified by

leads to

Achievement Specification

execute analytical mathematical calculations

use mathematical tools and equipment

related skill

related skill

specifies by

Written exam

Assessment Specification
• ELMv3 is the basis of EDC
• Long-term support version
• Multilingual
• Introduction of new properties based on demand
• ELMv3 Launch Webinar of the 11th of May available [here](#)
From ELM v2 to ELM v3

Europass Data Model

- QMS2, LOMS, AMS
- Extending to all Europass learning use cases

European Learning Model

- ELM, App. Profiles
- Integrating the individual models

Mainly for EC and MS

Targeted at LLL actors and stakeholders
UPDATES TO INTEROPERABILITY
Version Change Alert

EDC 1.8

→

EDC 2.0
Move from XML to JSON-LD

- W3C Verifiable Credentials Data Model is becoming the default ‘parent standard’ of all other credentialling standards, including ELM, Open Badges and Verifiable Credentials
- JSON has been replacing XML as the default language for developers for the past decade
- The EDC 1.0 expressed Verifiable Credentials as XML since eIDAS sealing standards had no support for JSON at the time – however, this made it a unique implementation with no compatibility offered by other wallets
- By moving to JSON, EDC will have improved interoperability and be easier to be supported by multiple verifiers
- By moving to JSON-LD it aids implementation in multiple systems, and extension of the data models for new purposes
Backward compatibility

ELM v.2
XML

ELM v.3
JSON
Converted Credentials

ELM v.3
JSON-LD

Used to display information inside the credential

eSealed
ELM v.2
XML

Used to verify the authenticity of the credential
EDC is now the only credential system in the world capable of maintaining credential validity indefinitely.
European Learning Model + ELMO

• ELM is strongly inspired by the lessons and experiences of ELMO and the EMREX community

• ELM takes these concepts and applies them to all levels of lifelong learning, including non-formal and informal learning

• ELM v.3 is 100% compatible with ELMO,
  - every field in ELMO is expressible as ELM
  - will allow for ELMO → ELM conversion
  - validated with ELMO community and published on Github
DEMO OF CHANGES TO MANDATED ISSUE AND THE ONLINE CREDENTIAL BUILDER
Improved Mandated Issue function

- Include mandating evidence in EDC
- Clearer division between Issuer and Awarding Bodies
Usability improvements

• Changes in Online Credential Builder
  o More and better structured fields
  o Template management
• Changes in EDC Viewer
  o Simplified side bar
  o Display of Credential ID in header
• Changes in Github
• Updating and improving documentation
UPCOMING MATERIALS AND SUPPORT
Material on Europass

- Update of the pages to reflect the changes from XML to JSON
- ‘How to get started’ - guide
- ‘How to’ guides on how to create basic types of credentials – including micro-credentials
eSeal support pages

- Further information on how to acquire an eSeal
- Information on the signature requirements
- A how to guide
• Publishing of JSON-LD templates for consultation

• Repository for HTML customization code in Thymeleaf
Community support

• Creation of a community space for good practice sharing and questions

• Let us know what we are missing

• What would you have needed at first contact?

• EMPL-ELM-SUPPORT@ec.europa.eu
NEXT STEPS
Data model browser is upcoming

2.1. Ontology

- Ontology

2.2. RDF Application Profiles

- AMS
  - AMS-constraints
  - AMS-constraints-mdr
- LOQ
  - LOQ-constraints
  - LOQ-constraints-mdr
- EDC
  - EDC-generic-no-cv
  - EDC-generic-full
- PID
  - PID-constraints

2.3. XSD Application Profiles

- AMS
  - AMS
- LOQ
  - LOQ

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European Digital Credential

A set of claims made by an issuer in Europe, using the EDC Standards. A European Digital Credential for Learning is a set of one or more claims which may be used to demonstrate that the owner has certain skills or has achieved certain learning outcomes through formal, non-formal or informal learning. European Digital Credential class is a subclass of Verifiable Credential.

- Applies to: elm:EuropeanDigitalCredential

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<th>URI</th>
<th>Expected value</th>
<th>Card.</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>attachment</td>
<td>elm:attachment</td>
<td>Media Object</td>
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<td>Any digital document (PDF, JPEG or PNG format) that an issuer has attached to the European Digital Credential document.</td>
</tr>
<tr>
<td>credential profile</td>
<td>elm:credentialProfiles</td>
<td>Concept</td>
<td>1..*</td>
<td>A profile of the European Digital Credential. It should be provided using the EDC Controlled List of Credential Types.</td>
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<td>cred:credentialSchema</td>
<td>Shacl Validator 2017</td>
<td>1..*</td>
<td>The schema of the european digital credential.</td>
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<tr>
<td>credential status</td>
<td>cred:credentialstatus</td>
<td>xsd:anyURI</td>
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<td>The status of the european digital credential.</td>
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<td>elm:displayParameter</td>
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</tr>
</tbody>
</table>
Ongoing work / Future releases

• **2023:**
  - Improvements to Accreditation

• **Future:**
  - EBSI integration
  - Synergies with SDG
  - Revocation
  - Archive Wallet
  - Role Management
  - Recognition statements
  - Europass Mobility
  - ELM governance
Any questions?
THANK YOU!

Contact us at: EMPL-ELM-SUPPORT@ec.europa.eu