

European Digital Credentials () for Learning

Ildiko Mazar NTT DATA / European Commission

6 October 2022



TALKING POINTS

- Introduction of Key Concepts
- Policy Background and Context
- Primary stakeholders and their benefits
- European Digital Credentials for Learning: infrastructure and functions
- Compulsory credential properties
- Authentication and verification checks
- Making credentials transparent and portable
- Recent and future developments





DEFINITION OF A DIGITALLY SIGNED CREDENTIAL

- A credential, in its most essential form, is a documented statement containing claims made about a person
- A European Digital Credential for Learning is a claim related to the learning achievement of a person
- A digital signature (e-Seal) guarantees the origin and integrity of the document

Graduate University Study of Civil Engineering

europass

University X certifies that

Ana Andromeda

has achieved an overall diploma grade of 4 - Good

Date and place of issue: Split, 02/06/2022 11:19 GMT +0200





Completing the European Education Area (2025)



WHY DOES THE EC NEED A DIGITAL CREDENTIAL INITIATIVE?

OBJECTIVES

- Empower citizens to own their credentials
- Reduce market fragmentation
- Create an EU Skills Data Space
- Make digital credentials multilingual by default
- Remove barriers to recognition
- Provide accreditation & transparency tools

BENEFITS

- Captures formal, non-formal & informal learning
- Addresses all levels of education
- Applicable to the whole course lifecycle
- Interoperable
- Aligned with European recognition instruments
- Free & open source



WHY USE EUROPEAN DIGITAL CREDENTIALS FOR LEARNING?





IMPLEMENTATION OPPORTUNITIES AND ADVANTAGES



Interoperability

Use Data Model



- Use Service
- to issue Credentials



Use **Code** to develop own applications







Access to 4 million wallets



Access to Qualification and Awarding bodies' data





EUROPEAN DIGITAL CREDENTIALS FOR LEARNING COMPONENTS OF THE INFRASTRUCTURE

The EDC infrastructure encompasses the technical specifications to implement the framework. It comprises the following core building blocks to help operationalise the framework



Standards



Services





ELEMENTS OF THE INFRASTRUCTURE

Open Infrastructure for Learner Data

Standards

- 1. European Learning Model
- 2. Interoperability standards

Services

- 1. EDC Issuer
- 2. EDC Wallet
- 3. EDC Viewer
- 4. Accreditation database
- 5. Course & Qualification

Search

6. Open Data Services

Software & support

- 1. eIDAS & EDC code libraries
- 2. Docker images
- 3. Qualifications Dataset

Register

- 4. Playground
- 5. API libraries
- 6. Helpdesk



SYSTEM FUNCTIONS





credentials and send them to their owners



Verify

if the credential is authentic, valid and issued by an accredited organisation



the information in the credential with any other person or organisation with just a click

Any standard compliant issuer can award info-rich, tamper-evident digitally signed credentials (fast, free and paperless)

EDCs can be directly deposited into any standard compliant credential wallet Instant, automatic authentication and verification checks verify credential's authenticity, validity, integrity and issuer's accreditation status (if applicable)

Owners can share their EDC(s) from any standard compliant wallet securely by custom links for fixed time periods



EDC COMPULSORY PROPERTIES





INSTANT AND AUTOMATIC CHECKS, INCLUDING ACCREDITATION

Valid from: 20/09/2019 00:00 GMT +0200 Type: Diploma Supplement (Mandated Issue)				
Home 🛓 Export 🔔 Upload a	nother credential	🗳 Share 🛛 English 🕞		
Ana Andromeda Sveučilište u Splitu	Streadline a Splits EUROPASS DIPLOMA SUPPLEMENT The Dates to get the sector of the approximation of some and theread of the sector of the approximation of the sector of the approximation of the sector of the approximation of the approximati	Authentication and Verification Check		
Master of Science in Civil	"hampsency" and Las academic and performinal surgestion of quiltibutions (hybrinis, degrees, artification are.)	FORMAT		
Engineering	L HOLDER OF THE QUALIFICATION	This credential is technically valid.		
Applied mathematics course	12 Rate of Net 100 100 1101 1110 12 House or outs	SEAL		
Applied mathematics Study visit	2. ISSUING ORGANISATION 3.1 Name d'activation 4.1 Name d'activation 5.1 Marce [Statist [Statist [Statist [Statist	The credential is Sealed by Nombre Servicio Sellado TEST. This credential has not been tampered with since issue.		
Postgraduate doctoral study		O REVOCATION		
		Verification step skipped		
Surveyors Board Member		ACCREDITATION		
Civil engineer		University of Split is Accredited by the Croatian Agency for Quality Assurance		
		VALIDITY		
		The credential is still valid.		
		VERIFIED		
		4794		

TYPES OF DIGITAL CREDENTIALS

attended the

- Qualifications (e.g., professional certificates, university diplomas and diploma supplements),
- Activities (e.g., participation in classes, non-formal learning events, work experience),
- Assessments (e.g., transcripts of records), and
- Entitlements (e.g., right to enrol in learning opportunities, or to undertake an occupation)

	uned	
European	ANTHONY FISHER CAMILLERI S.P.	
Commission	The Rector of the National University of Distance Education, considering that	
	Beatriz Sedano Cuevas has successfully finished the UNED Abierta course	
	Puertas Abiertas: Curso de español	
opass	para necesidades inmediatas (I)	Certificate of Participation
EC Inter	Impartido entre el 15/01/2019 y el 25/02/2019 en modalidad online. According to the program on the thack of this document, issues the presen 16/01/2019 00:00 GMT +0100 The Rector of the UNED	Alkistis Athanasopoulou participated in the Basic Training for Trainers LGBT0I Community and Youth participated in the Basic Training for Trainers that took phase from
Certificate of Participation	- Janth	11/03/2021 00:00 GMT +0100 to 01/04/2021 00:00 GMT +0200 Erasmus Student Network
The European Commission certifies that	Ricardo Mairal Credits number: 1 ECTS Hours number: 25 hours hours This degree is given as suitable of UNED and it does not have the official nature established in number 30 of the Organic Law 4/2001 that modifies the article 34 of Organic Law 4/2001 of Universities The authenticity of this document, as well as its validity and validity, can be checked through the following URL: https://iedm.uned.es /certificates/283c31a6719-dbeckc7a6c539ecad016	In ecoperation with more than 500 local associal links from 42 European countries, youth-led Erasmus Studient Network (ESN posseu) is unique knowledge of the needs and rights of current and future minipation il students. ESN believes that education is crucial in forming conscious and active annums. 51N threves to provide more inclusive education and opportunities for you'lt and empower youth workers across Europe. Eduk8 Eduk8 In ESN's training programme aiming to create an international pool of trainers who have processing competences, knowledge and tools needed to design and deliver who have processing competences in order to further educate and develop students and youth on visuous topics by using non-formal education methods.
Jonanna Smith	JAMK University of Applied Sciences	Judit Lantai Konstantinos Giannidis Training Coordinator President of Erasmus Student Network
the workshop "your career finder" at the European Youth Event 2021	Europass diploma supplement	(
in Strasbourg	This Diploma Supplement model was developed by the European Commission, Council of Europe and Unescot 'EFES, The purpose of the supplement is to provide sufficient independent data to improve the international transparency' and fair academic and professional recognition of qualifications (diplomas, degrees, certificates tc.).	Lati Jet Kostis Giannidis
)	1. Holder of the qualification 1.1 Family name 1.2 First name	
	Maar Billio 1.3 Date of birth (DD/MMYYYY) 1.4 Student ID number of sole 27/10/1976 123454.A HU,	
	2.1 Name of institution 2.2 County JAMK University of Applied Sciences Bölginm 2.3 Address Bölginm	
	SAL	
		13



Ana Andromeda	Master of Science in Civil Engine	eering		
Sveučilište u Splitu	Awarding Date: 20/09/2019 00:00 GMT +0200			
Master of Science in Civil	Awarding Body: Fakultet Gradevinarstva, Architekture i Geodezije			
Applied mathematics course	This is the overall description of the achievement of the Master of Science in Civil Engineering, that is linked to the overall credential, together with its sub-achievements.			
Applied mathematics Study visit	Proven by	Proven by		
Concrete structures I course 🗸 🗸 🗸	Title	Grade		
Dynamics of structures and	Overall Assessment	excellent (5)		
earthquake engineering vourse Geotechnical engineering course	Influenced by: Applied mathematics course, Applied mathematics Study visit, Concrete structures I course, Dynamics of structures and earthquake engineering course, Geotechnical engineering course, Stability of structures course			
Stability of structures course	Entitles Owner to: Postgraduate doctoral study , Civil engineer , Recognition for credit			
Postgraduate doctoral study	Sub-Achievements Applied mathematics, Concrete structures I, Dynamics of structures and earthquake engineering,			
Civil engineer	Geotechnical engineering, Stability of structure			
Recognition for credit	Specification %			
	Ach-Spec-ID-Scheme identifier: AchSpecID-	72		
	Learning Outcomes:			
	LO1 related to applied mathematics			
	LOID-Scheme identifier: LOID-73a			
	To formulate equations of mathematical physic or with numerical methods.	s for engineering problems, and to solve them analytically		
	Type: knowledge			
	Reusability Level: cross-sector skills and com	npetences		
	Related ESCO Skills: use mathematical tools calculations, geodesy	and equipment, execute analytical mathematical		

Related Skills: applied mathematics, perform engineering calculations, construct earthquake resistant structures

TRANSPARENCY & PORTABILITY

443 ELM properties to describe

- Details of the credential owner
- Organisations
- Achievements (including grades and references to learning outcomes, EQF/NQF levels, ISCED-f codes, ESCO skills activities and entitlements)
- Activities (by start and end dates; format, mode and volume of learning)
- Entitlements (Entitlement to work as an attorney or enroll in further education)



RECENT DEVELOPMENTS

- Multilingual credentials
- Download unsigned XML
- New templating engine
- Qualification Award and Diploma Supplement
- Accreditation Database
- Upgraded OCB





Q1 2023 developments

- Native Verifiable Credentials
- JSON-LD
- Upgrade of Mandated Issue

Foreseen developments

- Attestations
- Credential resigning
- Qualification Templates
- Certificate Supplements
- Support for Self-Sovereign Identity

Q2-4 2023 developments

- Archive Wallet
- Revocation list
- Data model browser
- Re-signing service
- Europass Mobility supplement



Commission

Thank you!

Contact us at EMPL-ELM-Support@ec.europa.eu