




European Digital Credentials for Learning and the European Learning Model

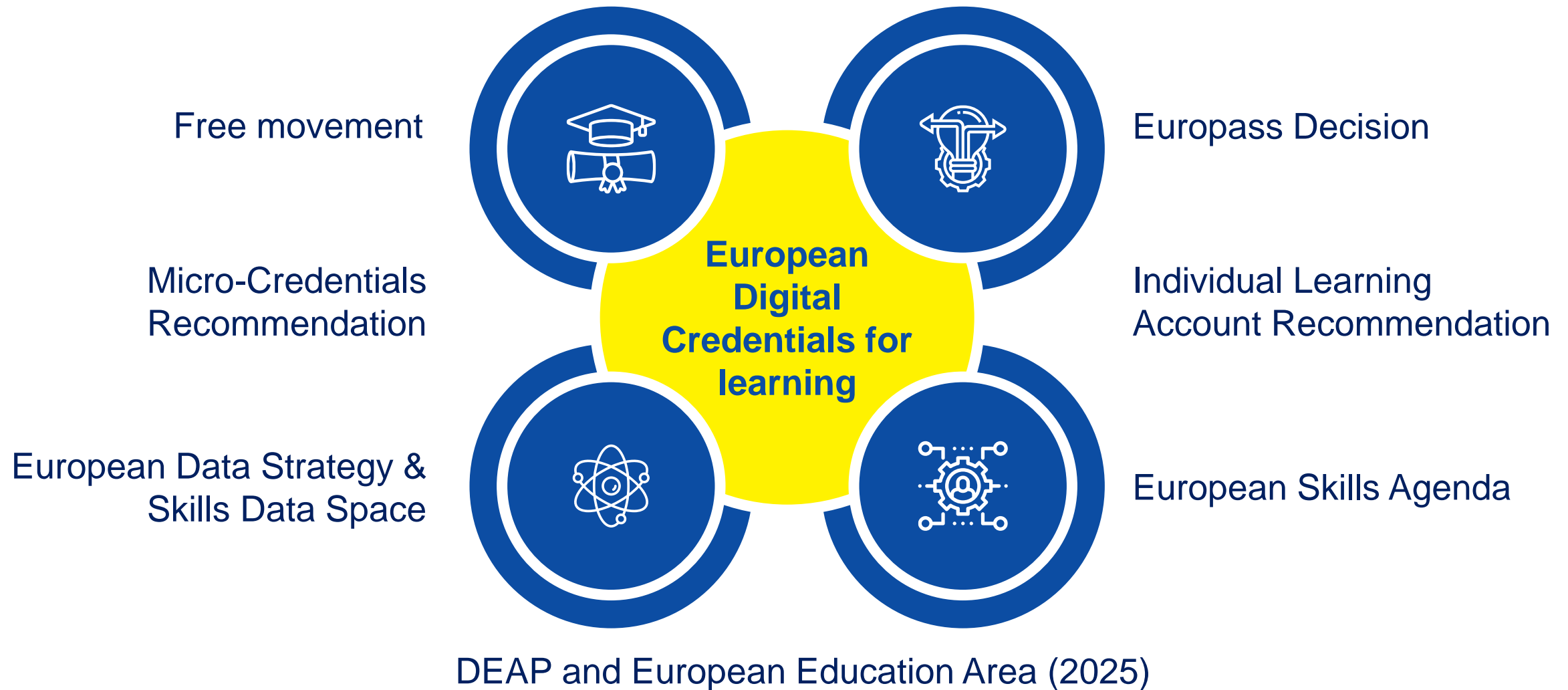
Koen Nomden & Ildiko Mazar

12 April 2023

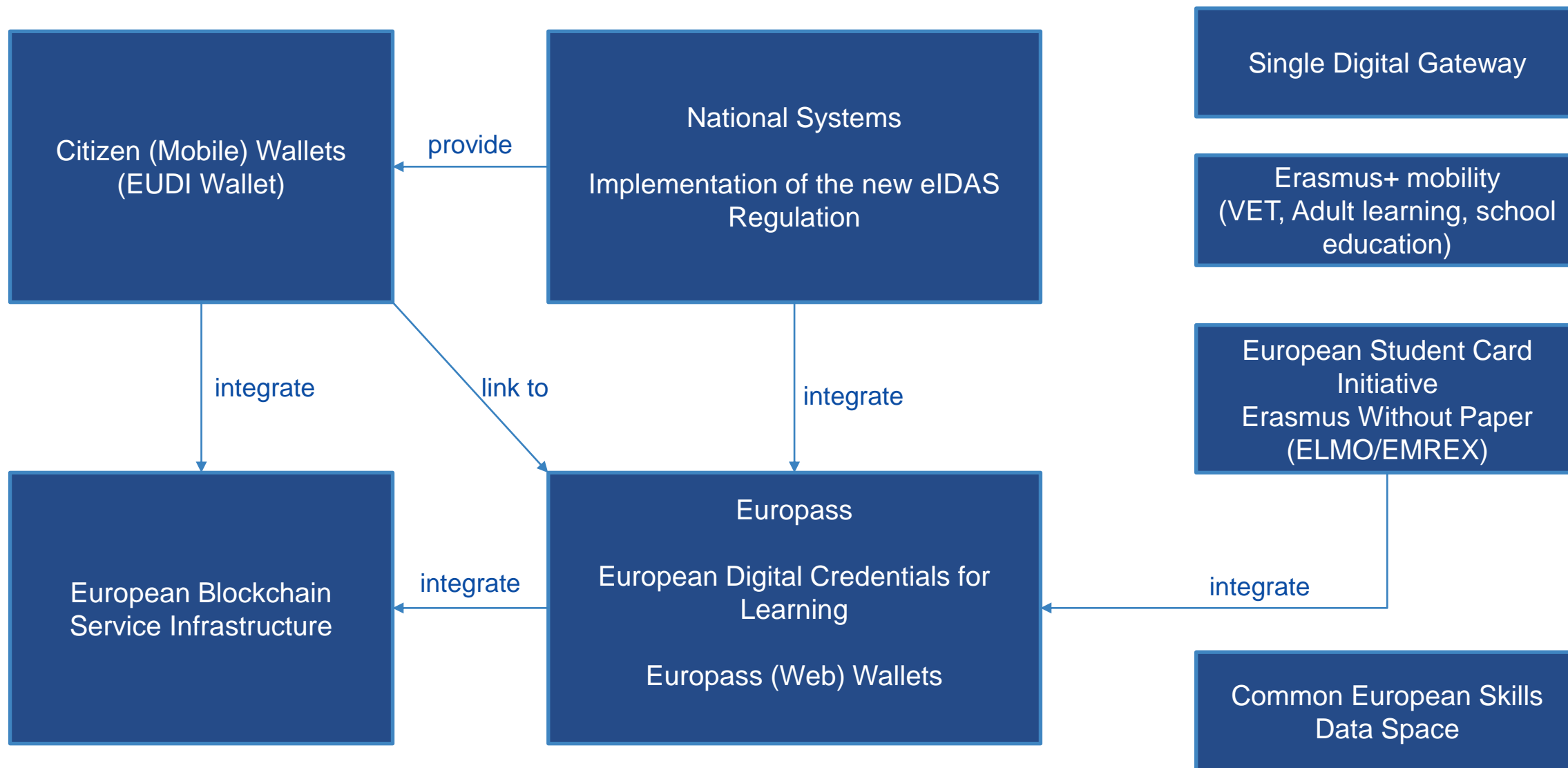
- Introduction and vision
- Policy context
- Overview of the European Digital Credentials for Learning
- European Learning Model
- Q&A



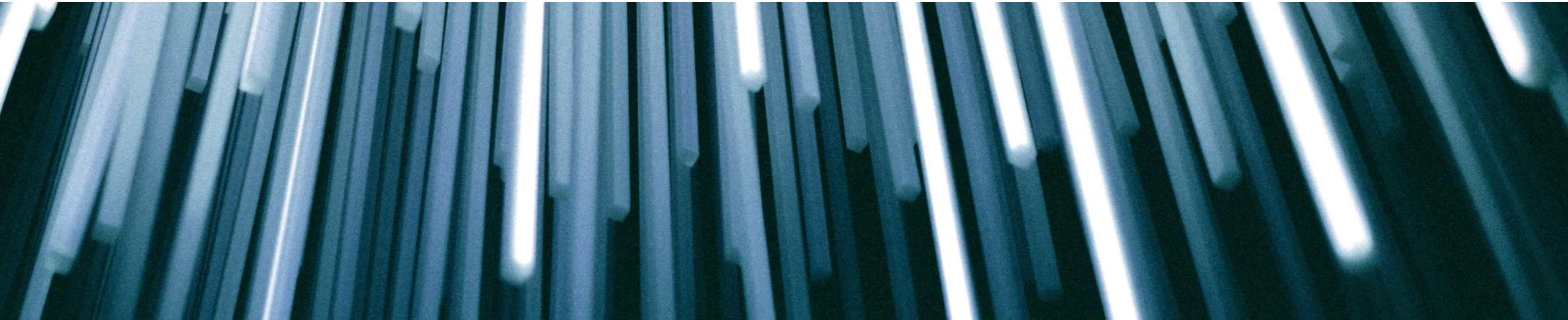
By 2025, all learners should be able to receive their education/training and professional credentials digitally and store them in a wallet



Conceptual synergies with other EU initiatives and services



- **Teamwork** across the **Commission** (DIGIT, CNECT, GROW, EAC ...)
- **Helping** Member States in their **digital transformation** of credentialing





[Council recommendation](#) of 22 May 2017 on the **European Qualifications Framework** for lifelong learning



[Decision of the European Parliament and European Council](#) of 2 May 2018 on a common framework for the provision of better services for skills and qualifications (**Europass**)

[Diploma Supplement](#) – attached to a **higher education** diploma



[Certificate supplement](#) – attached to a **VET/professional** certificate

[Mobility supplement](#) – attached to a **mobility** experience

The European Digital Credentials for Learning

Europass Decision (2018) - Article 4

6. Europass shall support
**authentication services for any digital
documents or representations of
information on skills and
qualifications.**



“
With European Digital Credentials for Learning, individuals can easily share their learning achievements in a secure and digital way when applying for a job or for further studies or training.
”

Nicolas Schmit
Commissioner
Jobs and Social Rights

#digitalcredentials



European
Commission

EU added value

- A European solution (not a UK or USA based solution)
- Supporting free movement (transparency & recognition)
- Free & open source
- Multilingual
- Privacy by design (GDPR)
- Connecting education and employment

Benefits for users

- Trustworthy & tamper evident
- Compliant with international standards (W3C VC)
- Cost and time savings
- Controlled by owners
- Easy to share, store and verify
- Data rich



Developing Experience Portfolios

Documenting skills acquisition while in employment

Verifying Credentials

Checking that applicants can back up their claims about achievement with documentation

Widening Access to Talent

Identifying suitable employment candidates who may not typically apply or qualify for positions

Matching Jobs to Skills

Accurately summarising the full skills and competences of job applicants, and matching these to positions

Source: [Digital Credentials Consortium \(mit.edu\)](https://digitalcredentialsconsortium.mit.edu/)

1

**Digital credentials
are the future**

2

**Supporting the
recognition of skills
and qualifications**

3

**Connecting Member
States**


Types of digital credentials

- A **credential**, in its most essential form, is a **documented statement containing claims made about a person**
- **qualifications** (e.g. professional certificates, university degrees, VET certificates, school leaving certificates),
- **activities** (e.g. letters of recommendation by employers, participation in non-formal learning),
- **assessments** (e.g. transcripts of records)
- **entitlements** (e.g. right to access a profession)
- **Recognition statements** (e.g. assessment of foreign qualifications)



Graduate University Study of Civil Engineering

Valid from: 20/09/2019 00:00 GMT +0200 | Type: Diploma Supplement (Mandated Issue)



Home | **Export** | Upload another credential | Share | English

- XML document
- PDF full credential**
- PDF summary credential

JAMK University of Applied Sciences Europass diploma supplement

This Diploma Supplement model was developed by the European Commission, Council of Europe and Unesco/CEPES. The purpose of the supplement is to provide sufficient independent data to improve the international transparency and facilitate academic and professional recognition of qualifications (diploma, degree, certificates etc.).

1. Holder of the qualification

1.1 Family name Andersson	1.2 First name Aino
1.3 Date of birth (DDMMYYYY) 10/01/1982	1.4 Student ID number or code 12345678 IT, BC-456912-4A


2. Issuing organisation

2.1 Name of institution JAMK University of Applied Sciences	2.2 Country Finland
2.3 Address JAMK Rajakatu 35, 40100 Jyväskylä Finland	

« < 1 / 4 > »


Authentication and Verification Check

- FORMAT**
This credential is technically valid.
- SEAL**
The credential is Sealed by Nombre Servicio Sellado TEST. This credential has not been tampered with since issue.
- REVOCACTION**
Verification step skipped
- VALIDITY**
The credential is still valid.
- VERIFIED**



Authentication and Verification Check

- FORMAT**
This credential is technically valid.
- SEAL**
The credential is Sealed by Nombre Servicio Sellado TEST. This credential has not been tampered with since issue.
- REVOCACTION**
Verification step skipped
- VALIDITY**
The credential is still valid.
- VERIFIED**




Expiry date: 31/12/2025

<https://europa.eu/europass/digital-credentials/viewer/#shareview/wSpAraxhXcUBeDu>

European Union 2 / 2

Graduate University Study of Civil Engineering - Diploma Supplement

Valid from: 20/09/2019 00:00 GMT +0200 Expiry date: 31/12/2100 00:00 GMT +0100 Type: Diploma Supplement (Mandated Issue)



Home Export Upload another credential Share English

Ana Andromeda

Master of Science in Civil Engineering

Recognition for credit

Postgraduate doctoral study

Civil engineer

Europass diploma supplement

This Diploma Supplement model was developed by the European Commission, Council of Europe and UNESCO/CEPES. 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 etc.).

1. Holder of the qualification

1.1 Family name Andromeda	1.2 First name Iris
1.3 Date of birth (MM/DD/YYYY) 02/09/1999	1.4 Student ID number or code 142957-85, Student ID 972645

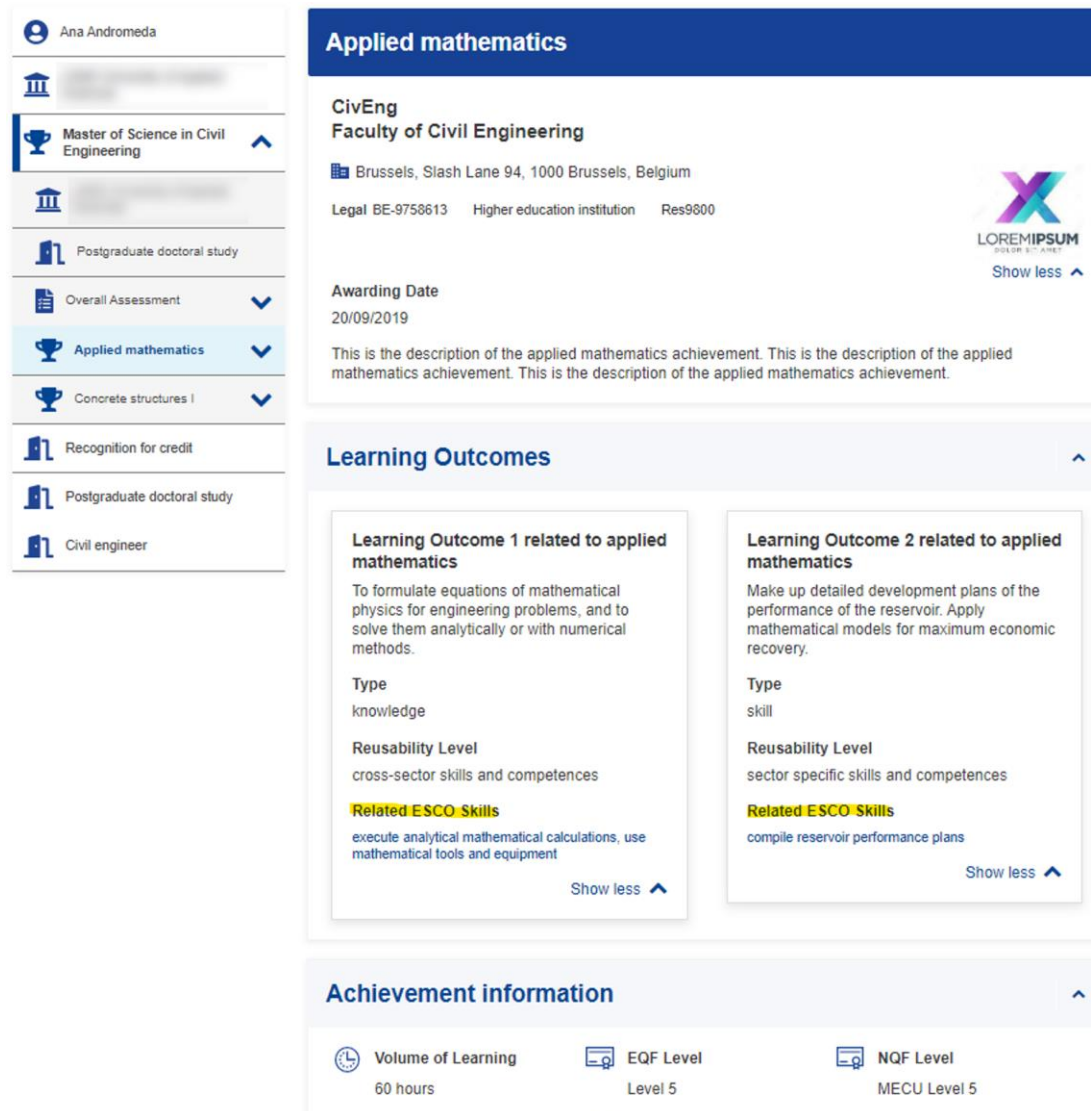
2. Issuing organisation

2.1 Name of institution JAMK University of Applied Sciences	2.2 Country Finland
2.3 Address Jyväskylä Mannerin 35, 41200 Jyväskylä Finland	

Authentication and Verification Check

- ✓ **FORMAT**
This credential is technically valid.
- ✓ **SEAL**
The credential's Seal is authentic. This credential is not reported as revoked.
- **REVOCAATION**
Verification step skipped
- ✓ **ACCREDITATION**
This credential is accredited
- ✓ **VALIDITY**
The credential is still valid.
- 🏆 **VERIFIED**

Connection
with the
DEQAR
accreditation
database



The screenshot displays a digital credential for 'Applied mathematics' from the Faculty of Civil Engineering in Brussels. The interface includes a left-hand navigation menu with various study levels and a main content area with three sections: 'Applied mathematics' details, 'Learning Outcomes', and 'Achievement information'.

Applied mathematics

CivEng
Faculty of Civil Engineering
Brussels, Slash Lane 94, 1000 Brussels, Belgium
Legal BE-9758613 Higher education institution Res9800

Awarding Date
20/09/2019

This is the description of the applied mathematics achievement. This is the description of the applied mathematics achievement. This is the description of the applied mathematics achievement.

Learning Outcomes

Learning Outcome 1 related to applied mathematics
To formulate equations of mathematical physics for engineering problems, and to solve them analytically or with numerical methods.
Type: knowledge
Reusability Level: cross-sector skills and competences
Related ESCO Skills
execute analytical mathematical calculations, use mathematical tools and equipment

Learning Outcome 2 related to applied mathematics
Make up detailed development plans of the performance of the reservoir. Apply mathematical models for maximum economic recovery.
Type: skill
Reusability Level: sector specific skills and competences
Related ESCO Skills
compile reservoir performance plans

Achievement information

Volume of Learning 60 hours	EQF Level Level 5	NQF Level MECU Level 5
--------------------------------	----------------------	---------------------------

- European Skills, Competences, Qualifications and Occupations (**ESCO**)
- Describing, identifying and classifying professional occupations and skills relevant for the **EU labour market and education and training area**
- Systematically showing the relations between those occupations and skills
- ELM allows cross-reference

Q1 2023 developments

- Native Verifiable Credentials
- JSON-LD
- Credential re-signing
- Upgrade of Mandated Issue

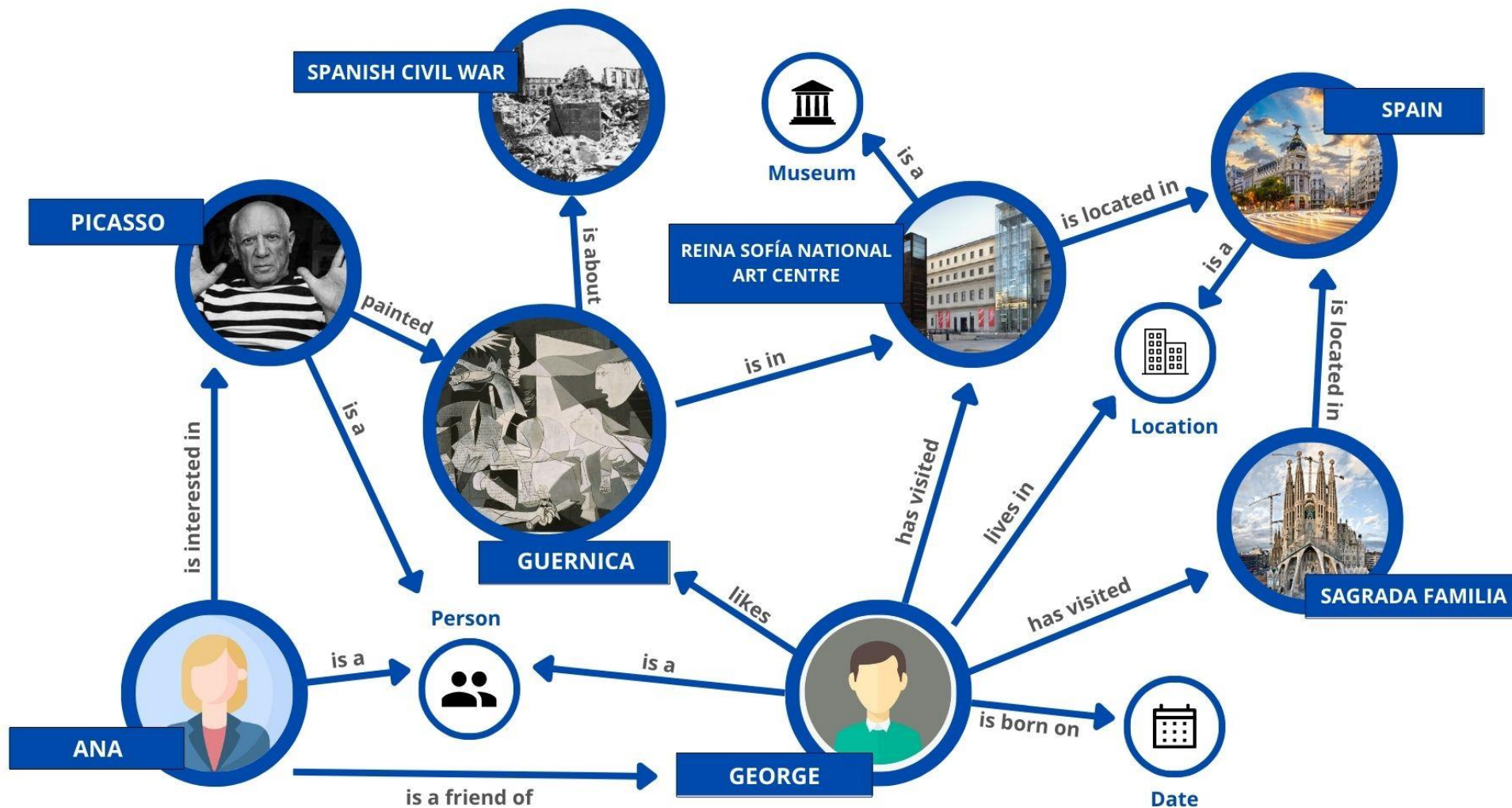
Q2-4 2023 developments

- Support for Self-Sovereign Identity
- EBSI Integration
- Data model browser

Future developments

- Archive Wallet
- Europass Mobility
- Certificate Supplements
- Micro-credentials
- Recognition statements
- Revocation list

What is a data model?

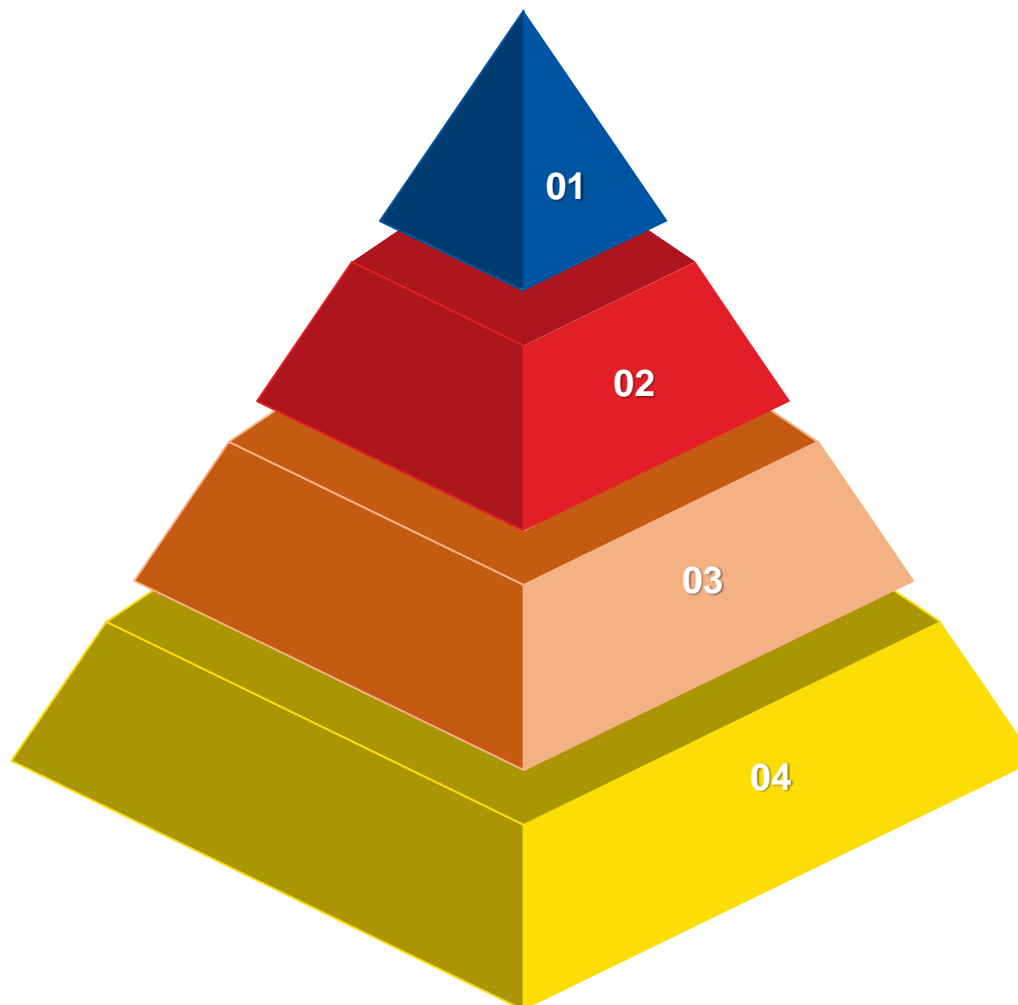


01 European Information Model

Definitions and Standards in CRs on EQF & Micro-credentials, 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

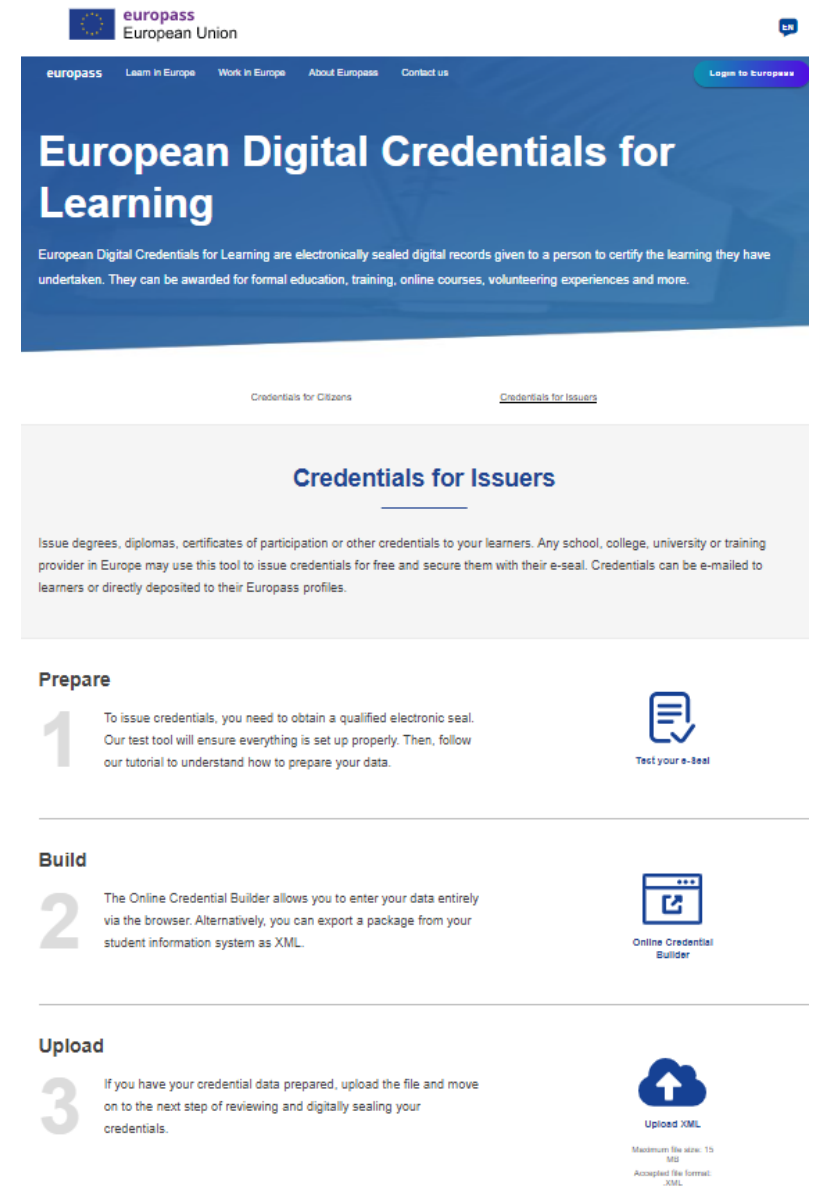
National, Regional or Sectoral extensions of the data model & application profiles to deal with specific use cases

Use the EC free service and platform to issue EDCs (low cost/investment)

- **Via Online Credential Builder**
 - + Online browser-based
 - + User-friendly (follows dev updates, handles associations well)
 - + All your templates in one place
- **Via file upload**
 - + Native EDC format
 - + Most suitable for issuing large number of credentials (1000+)




Customise and run the EDC infrastructure locally (medium up-front cost/investment)

- + Native EDC format
- + Most suitable for issuing large number of credentials (1000+)



The screenshot shows the Europass website interface. At the top, there is a navigation bar with 'europass' and 'European Union' logos, and a 'Login to Europass' button. The main heading is 'European Digital Credentials for Learning'. Below this, there is a sub-section titled 'Credentials for Issuers'. The text under this heading reads: 'Issue degrees, diplomas, certificates of participation or other credentials to your learners. Any school, college, university or training provider in Europe may use this tool to issue credentials for free and secure them with their e-seal. Credentials can be e-mailed to learners or directly deposited to their Europass profiles.'

The page is divided into three main steps:

- 1 Prepare**: To issue credentials, you need to obtain a qualified electronic seal. Our test tool will ensure everything is set up properly. Then, follow our tutorial to understand how to prepare your data. 
- 2 Build**: The Online Credential Builder allows you to enter your data entirely via the browser. Alternatively, you can export a package from your student information system as XML. 
- 3 Upload**: If you have your credential data prepared, upload the file and move on to the next step of reviewing and digitally sealing your credentials. 

Additional text at the bottom right of the screenshot: 'Maximum file size: 15 MB', 'Accepted file format: XML'.

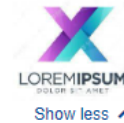
- Ana Andromeda
- Master of Science in Civil Engineering
- Postgraduate doctoral study
- Overall Assessment
- Applied mathematics**
- Concrete structures I
- Recognition for credit
- Postgraduate doctoral study
- Civil engineer

Applied mathematics

CivEng
Faculty of Civil Engineering

Brussels, Slash Lane 94, 1000 Brussels, Belgium

Legal BE-9758613 Higher education institution Res9800



Awarding Date
20/09/2019

This is the description of the applied mathematics achievement. This is the description of the applied mathematics achievement. This is the description of the applied mathematics achievement.

Learning Outcomes

Learning Outcome 1 related to applied mathematics

To formulate equations of mathematical physics for engineering problems, and to solve them analytically or with numerical methods.

Type
knowledge

Reusability Level
cross-sector skills and competences

Related ESCO Skills
execute analytical mathematical calculations, use mathematical tools and equipment

Show less

Learning Outcome 2 related to applied mathematics

Make up detailed development plans of the performance of the reservoir. Apply mathematical models for maximum economic recovery.

Type
skill

Reusability Level
sector specific skills and competences

Related ESCO Skills
compile reservoir performance plans

Show less

Achievement information

Volume of Learning
60 hours

EQF Level
Level 5

NQF Level
MECU Level 5

Achievement information

Volume of Learning
60 hours

EQF Level
Level 5

NQF Level
MECU Level 5

ECTS Credit Points
5

Learning Settings
formal learning

Mode of Learning
Presential

Thematic Area
Mathematics, Mathematics and statistics, Natural sciences, mathematics and statistics

Language
Spanish, English

Learning activities

Applied mathematics course

Entitles Owner to

Recognition for credit

Other information

Related documents
<https://ach73.otherdoc.unix.edu>

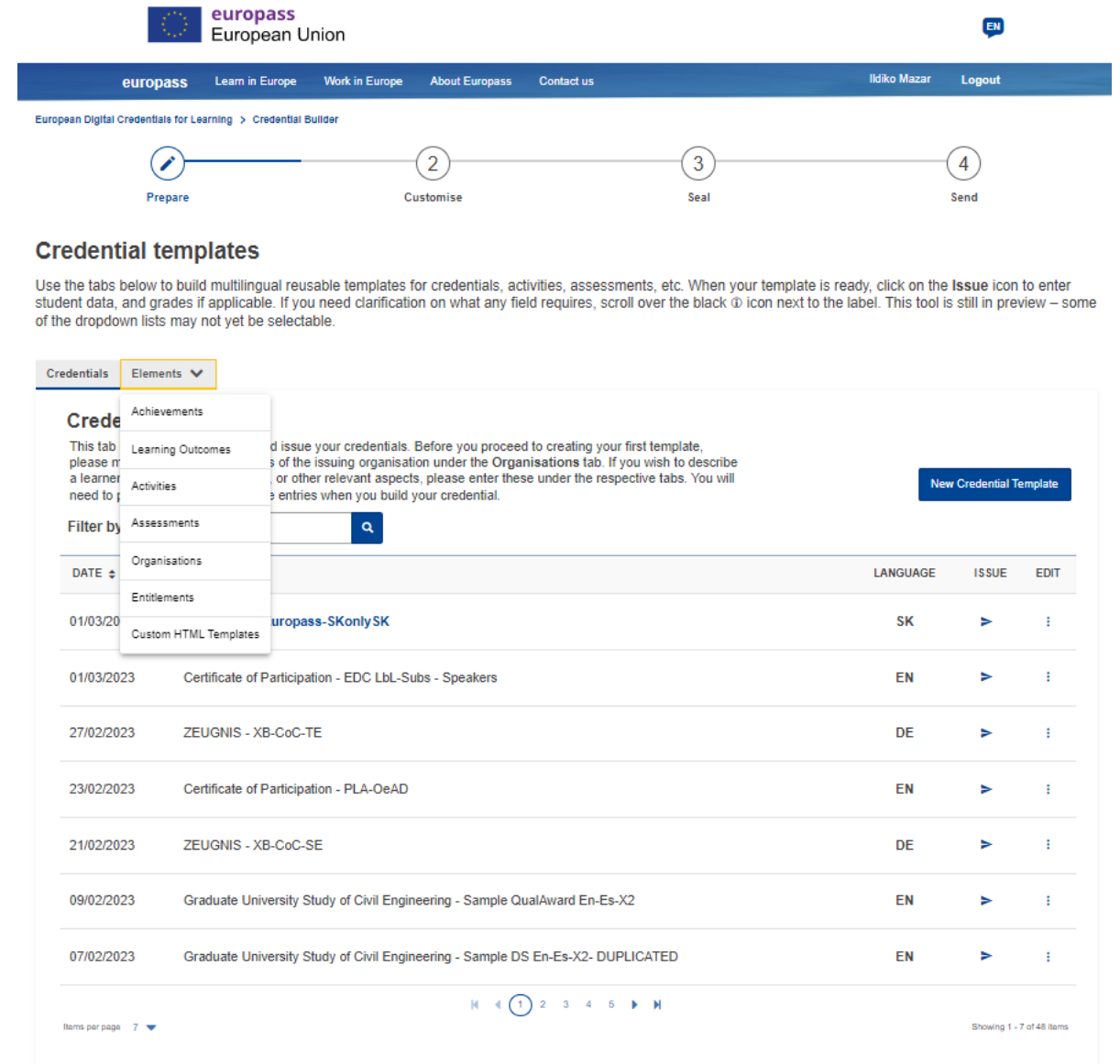
Can be co-delivered by
Members of the Research Alliance

Recognition conditions
Achievements acquired at any of the member universities will qualify for automatic recognition at home institution

487 properties describe

- Credential owner
- Organisations
- Achievements
- Activities
- Assessments
- Entitlements

- User-friendly web browser based interface
- Private OCB account with EU Login
- Cross-referenceable templates
- No personal learner data stored
- Growing list of credential templates
- Navigation and content in 29 languages
- Search, clone and edit function
- Incorporating other standards (EQF, ESCO, ISCED-F, etc.)
- Apply preview customisation



The screenshot shows the Europass Credential Builder interface. At the top, there is a navigation bar with the Europass logo and the text "European Union". Below this, a progress bar indicates four steps: 1. Prepare, 2. Customise, 3. Seal, and 4. Send. The current step is "Customise".

The main content area is titled "Credential templates". It includes a text block explaining the purpose of the tool: "Use the tabs below to build multilingual reusable templates for credentials, activities, assessments, etc. When your template is ready, click on the Issue icon to enter student data, and grades if applicable. If you need clarification on what any field requires, scroll over the black ⓘ icon next to the label. This tool is still in preview – some of the dropdown lists may not yet be selectable."

Below the text is a "Credentials" tab with a dropdown menu for "Elements". The dropdown menu is open, showing options: Achievements, Learning Outcomes, Activities, Assessments, Organisations, Entitlements, and Custom HTML Templates. A search bar is also visible next to the dropdown.

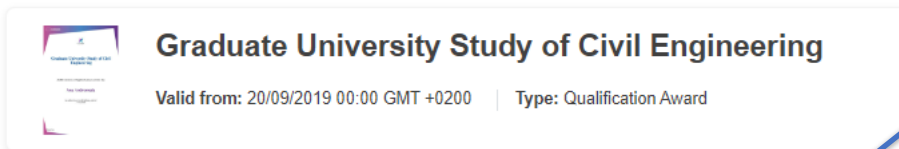
To the right of the dropdown menu is a "New Credential Template" button. Below this is a table of existing credential templates. The table has columns for DATE, LANGUAGE, ISSUE, and EDIT. The first row shows a template for "Europass-SKonlySK" with a date of 01/03/20. Other rows include "Certificate of Participation - EDC LbL-Subs - Speakers", "ZEUGNIS - XB-CoC-TE", "Certificate of Participation - PLA-OeAD", "ZEUGNIS - XB-CoC-SE", "Graduate University Study of Civil Engineering - Sample QualAward En-Es-X2", and "Graduate University Study of Civil Engineering - Sample DS En-Es-X2- DUPLICATED".

At the bottom of the table, there is a pagination control showing "Items per page 7" and "Showing 1 - 7 of 48 items".

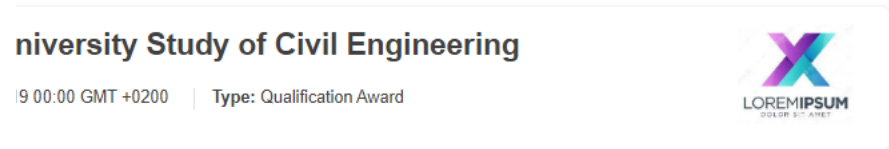
EDC Issuer before and after sealing

signConfirmationModal

These credentials will be sealed with the data contained within your qualified eSeal:



Graduate University Study of Civil Engineering
Valid from: 20/09/2019 00:00 GMT +0200 | Type: Qualification Award



Graduate University Study of Civil Engineering
Valid from: 20/09/2019 00:00 GMT +0200 | Type: Qualification Award

Home Export Upload another credential Cancel Proceed Share English

- Ana Andromeda
- JAMK University of Applied Sciences
- Master of Science in Civil Engineering
- Recognition for credit
- Postgraduate doctoral study
- Civil engineer

Issuing organisation

JAMK
JAMK University of Applied Sciences

Jyväskylä, Rajakatu 35, 40200 Jyväskylä, Finland <https://unix.eu>

Legal FI0504 VAT identifier 10065502 TAX identifier 12345678

Email
contact@jamk.fi

Accreditation

Institutional audit [Show more](#)

- Ana Andromeda
- Certificado TEST Sello Electronico
- Master of Science in Civil Engineering
- Recognition for credit
- Postgraduate doctoral study
- Civil engineer

Issuing organisation

Nombre Servicio Sellado TEST
Certificado TEST Sello Electronico

Spain <https://unix.eu>

Legal VATES-B000000000 VAT identifier 10065502 TAX identifier 12345678

Email
contact@jamk.fi

Accreditation

Institutional audit [Show more](#)

Message window showing an email from automated-notifications@nomail.ec.europa.eu. The subject line is highlighted in pink: "A European Digital Credential for Learning titled 'Graduate University Study of Civil Engineering' has been ...". A red arrow points from the subject line to the text "Email title informs about wallet deposit". The sender's name "Ana Andromeda" is displayed in large purple font. The email content states: "has achieved an overall diploma grade of 5 - Excellent". A pink triangle graphic is present at the bottom left. The text "Issued on 03/03/2023 16:14 GMT +0100" is shown. A red arrow points from the text "Email contains a unique credential URL" to a long URL in the body text: <https://europa.eu/europass/digital-credentials/viewer/#/view/n002jkia/urn%3Averifiable%3A395657bb-654b-440f-8546-8e5601522835>. The email footer includes "Europass Team".

Message window showing the same email with an attachment. The subject line is "Your Graduate University Study of Civil Engineering". A red arrow points from the subject line to the text "EDC is attached". The sender's name "Ana Andromeda" is displayed in large purple font. The email content states: "has achieved an overall diploma grade of 5 - Excellent". A pink triangle graphic is present at the bottom left. The text "Issued on 03/03/2023 16:14 GMT +0100" is shown. A red arrow points from the text "Email contains link to EDC Viewer" to a URL in the body text: <https://europa.eu/europass/digital-credentials/viewer>. The email footer includes "The Europass Team".

Graduate University Study of Civil Engineering

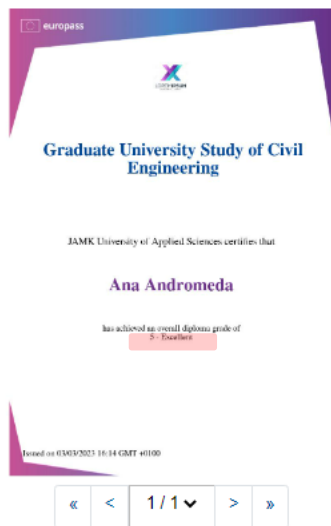
Valid from: 20/09/2019 00:00 GMT +0200 | Type: Qualification Award (Mandated Issue)



Home Export Upload another credential

Share English

- Ana Andromeda
- JAMK University of Applied Sciences
- Master of Science in Civil Engineering
- Recognition for credit
- Postgraduate doctoral study
- Civil engineer



Authentication and Verification Check

- FORMAT**
This credential is technically valid.
- SEAL**
The credential is Sealed by Nombre Servicio Sellado TEST. This credential has not been tampered with since issue.
- REVOCAION**
Verification step skipped
- VALIDITY**
The credential is still valid.
- VERIFIED**

Graduate University Study of Civil Engineering

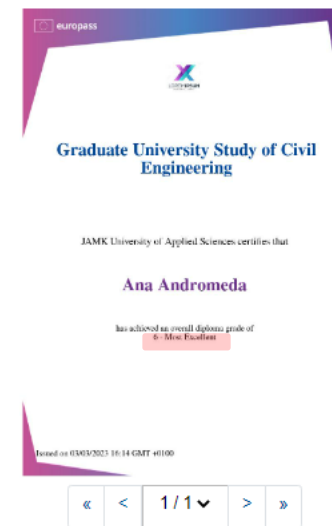
Valid from: 20/09/2019 00:00 GMT +0200 | Type: Qualification Award (Mandated Issue)



Home Export Upload another credential

Share English

- Ana Andromeda
- JAMK University of Applied Sciences
- Master of Science in Civil Engineering
- Recognition for credit
- Postgraduate doctoral study
- Civil engineer



Authentication and Verification Check

- FORMAT**
This credential is technically valid.
- SEAL**
The seal of the credential has been broken. This document may have been tampered with.
- REVOCAION**
Verification step skipped
- VALIDITY**
The credential is still valid.
- VERIFICATION FAILED**

Thank you!

Contact us at

EMPL-ELM-Support@ec.europa.eu