

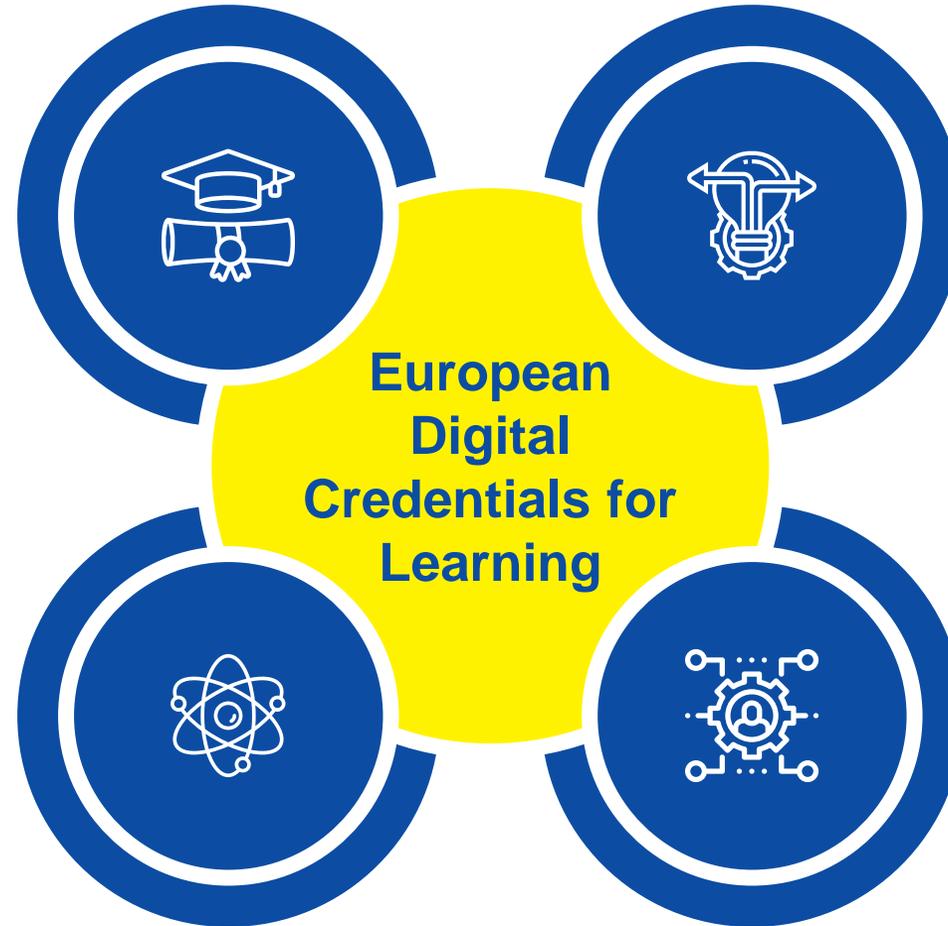
European Digital Credentials for Learning

A Step Forward



[Digital Education Action Plan](#)

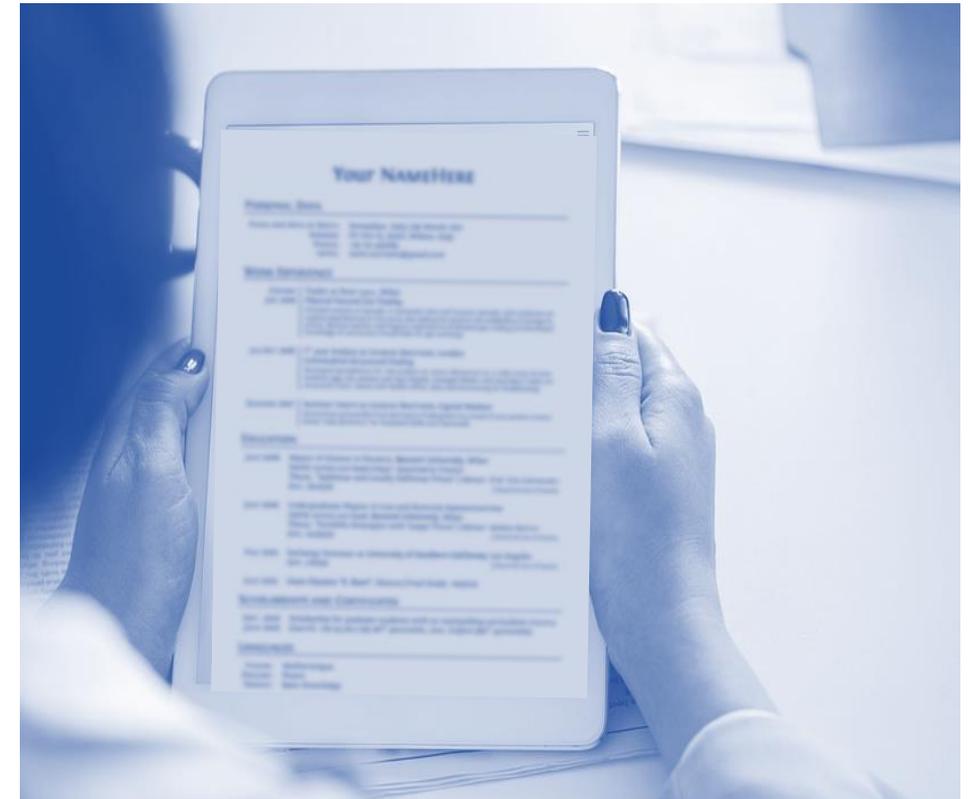
[Europass Decision](#)

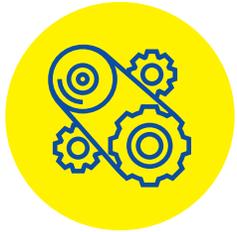


[European Data Strategy](#)

[European Skills Agenda](#)

- A credential, in its most essential form, is a **documented statement** containing claims made about a person.
- **European Digital Credentials for Learning** are standardised tamper-evident electronic documents describing that their owner has certain skills or has achieved certain learning outcomes through formal or non-formal learning context.
- A **digitally-signature (e-Seal)** guarantees the origin and integrity of the document.
- The **European Learning Model** allows interoperability of Learning Opportunities, Qualifications and Credentials in Europe and supports a fast track to credential recognition, reducing administrative burden and decreasing fraud by supporting automatic authentication of qualifications by employers and training providers.





Interoperability



Use **Data Model**



Use **Service**
to issue Credentials



Use **Code**
to develop own applications



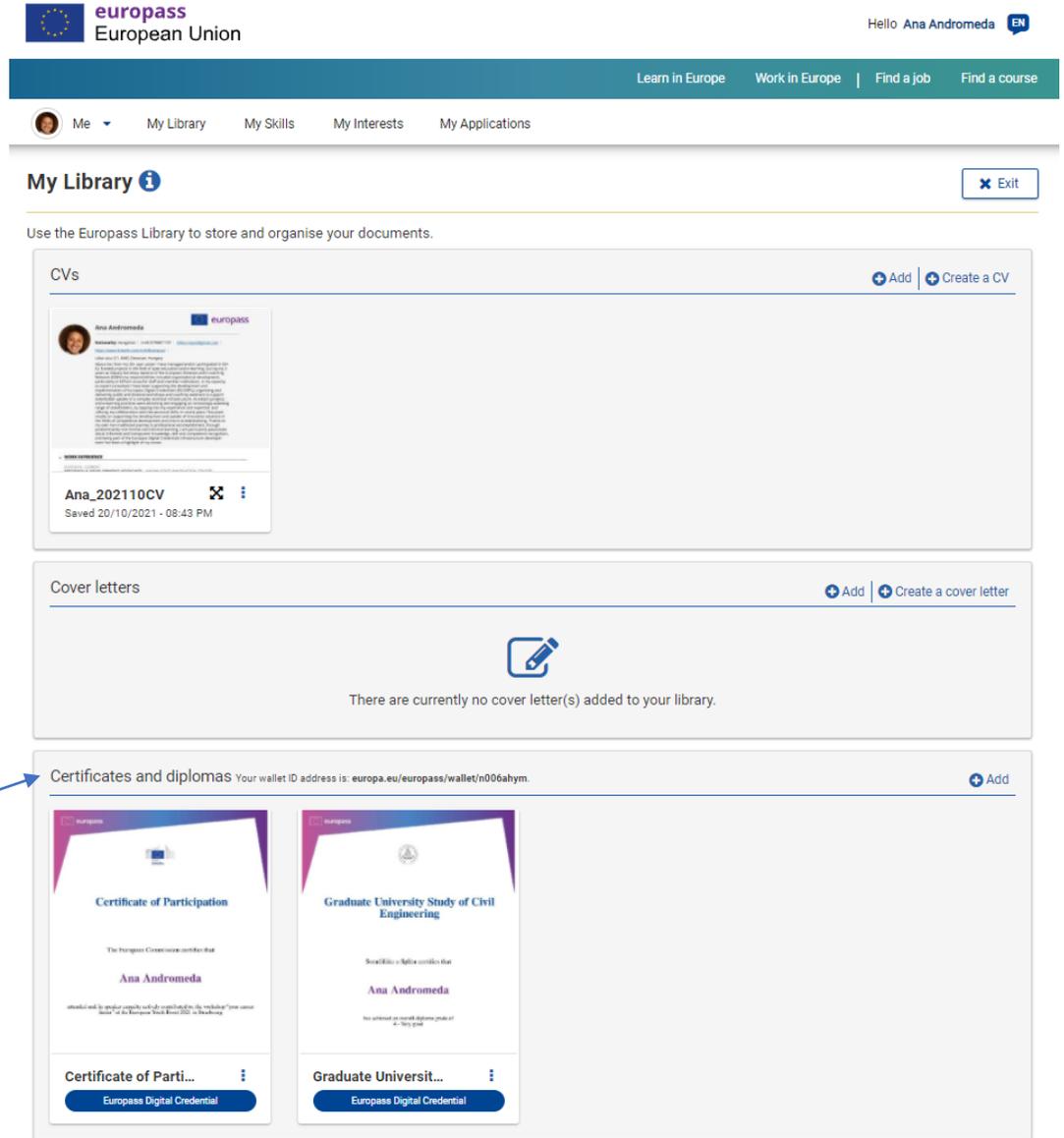
Europass (available in 29 languages)



Access to 2.5 million wallets



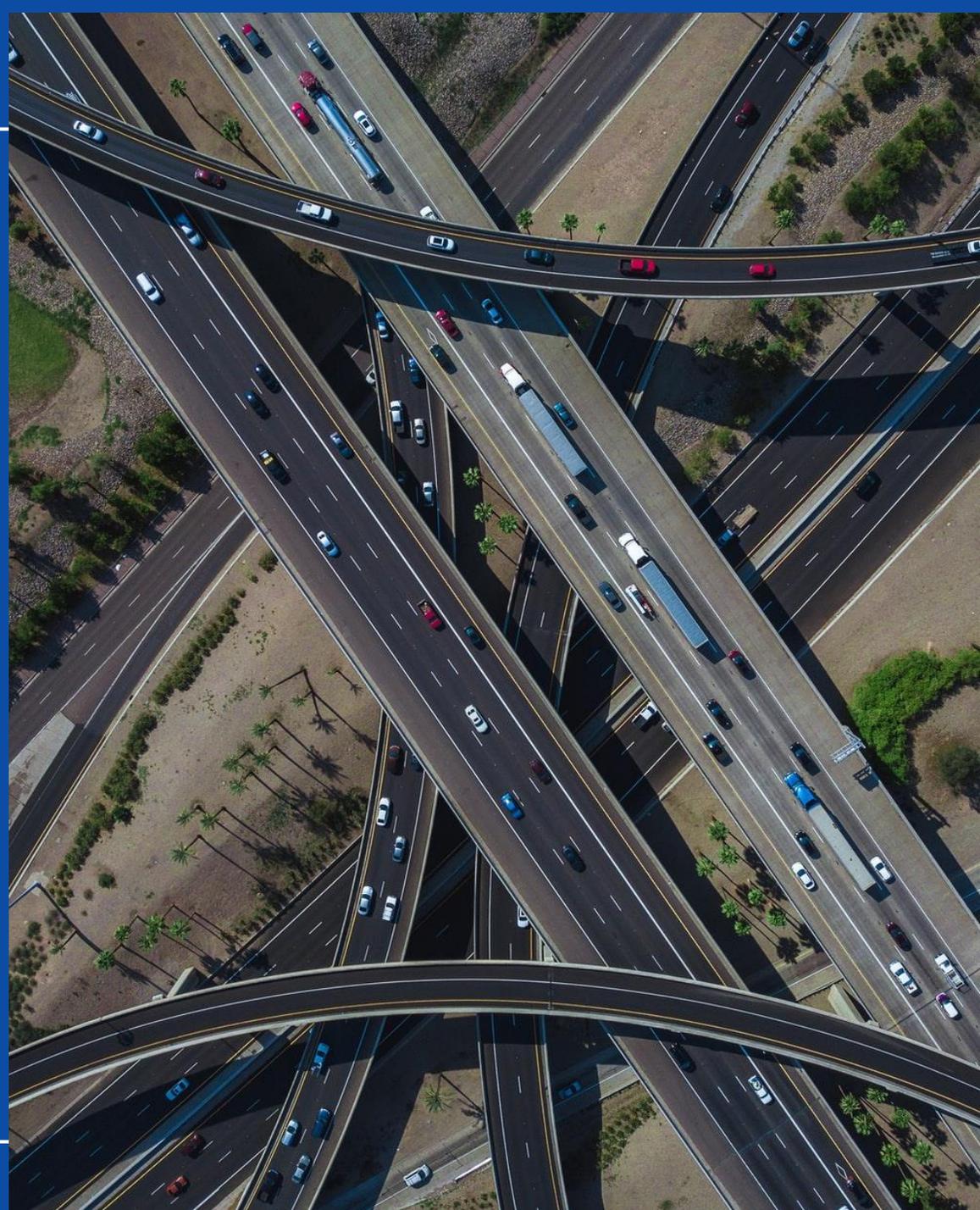
Access to Qualification and
Awarding bodies data



- 7 countries published data on **Learning Opportunities** in Europass
- 17 countries published data on **Qualifications** in Europass
- Vocational education and training (**VET**) – “Digital Luxembourg” strategy (1600+ VET diplomas)
- Digital Diplomas – first **digital degree** issued in Croatia before the end of 2021
- Credential **recognition** – DigiNet, SEA-EU, ECCOE projects
- Malta issuing 1000+ **transcripts of records** in early 2022
- ESN, European Commission, SEPIE issue **non-formal** training certificates
- European Consortium of Innovative Universities (ECIU) **building own solution**
- Vendors (e.g. Moodle and Digitary) developing own **interoperable credentialing products**

European Digital Credentials for Learning

The Infrastructure



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



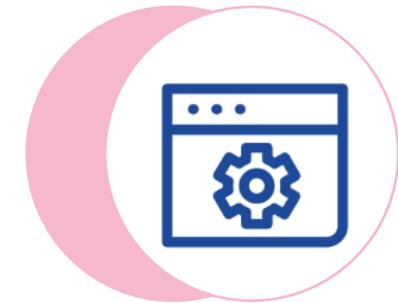
eIDAS



Standards



Services



Software

Standards

1. European Learning Model
(Linked to W3C VC)

Services

1. Issuer
2. Wallet
3. Viewer
4. Accreditation DB

Software & Support

1. eIDAS & EDC code
libraries
2. Playground & API library
3. Helpdesk

European Digital Credentials for Learning System Functions

Europass Digital Credentials

Europass Digital Credentials are electronically sealed digital records given to a person to certify the learning they have undertaken. They can be awarded for formal education, training, online courses, volunteering experiences and more.

[Credentials for Citizens](#)

[Credentials for Issuers](#)

Credentials for Issuers

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.

Prepare

1

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.



Test your e-Seal



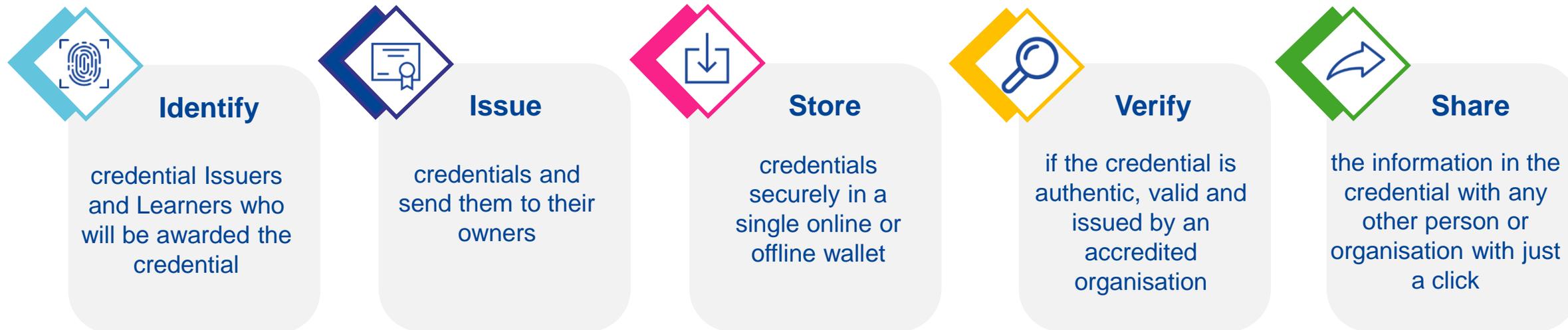
How to prepare your data

Build

2

The Online Credential Builder allows you to enter your data entirely via the browser. You may also prepare larger datasets in Excel (for





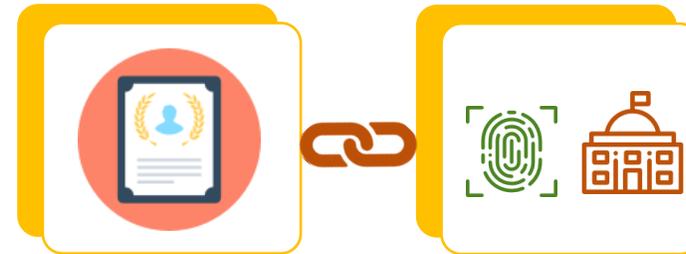


Today: Paper-based



The credential states the identity of the awarding body and credential owner

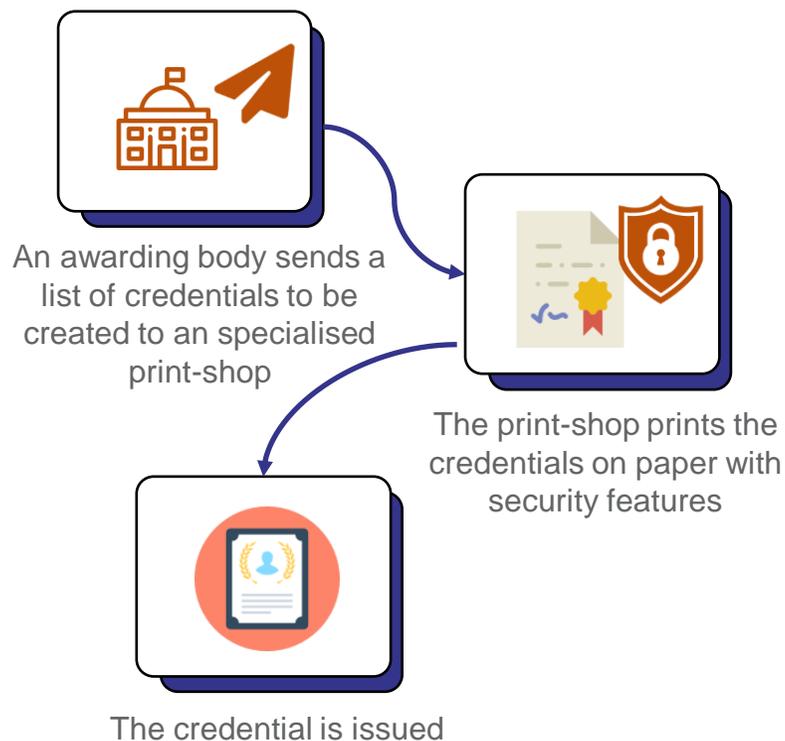
European Digital Credentials for Learning



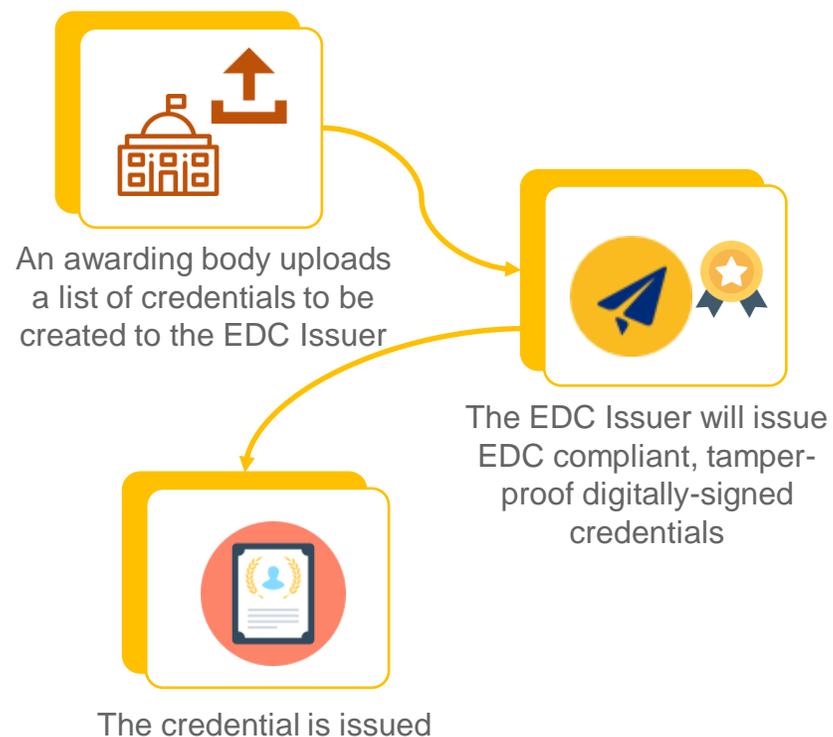
The digitally-signed credential is linked to the identity of the awarding body, such that only the awarding body may issue such a credential



Today: Paper-based



European Digital Credentials for Learning

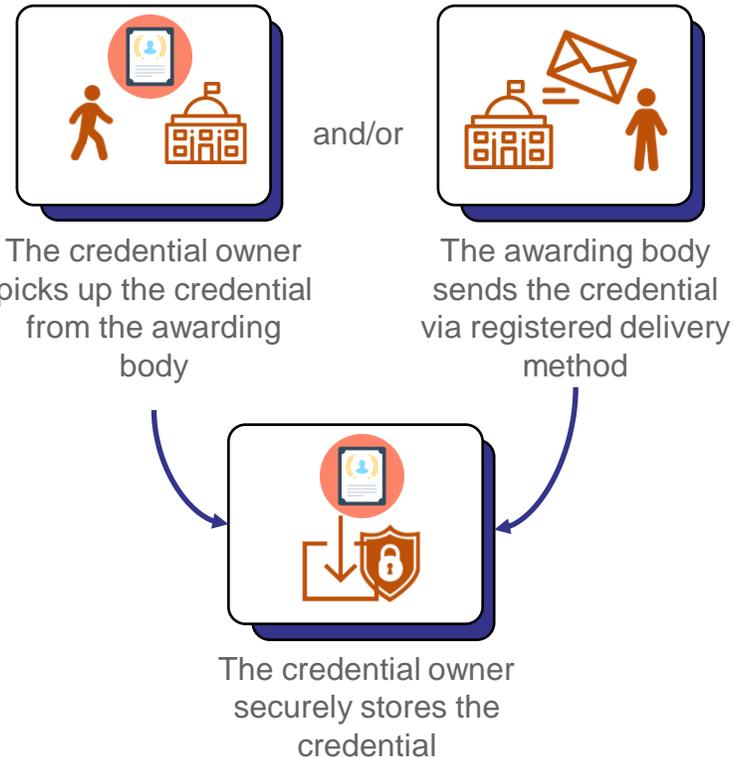


No obligation to use EDC Issuer

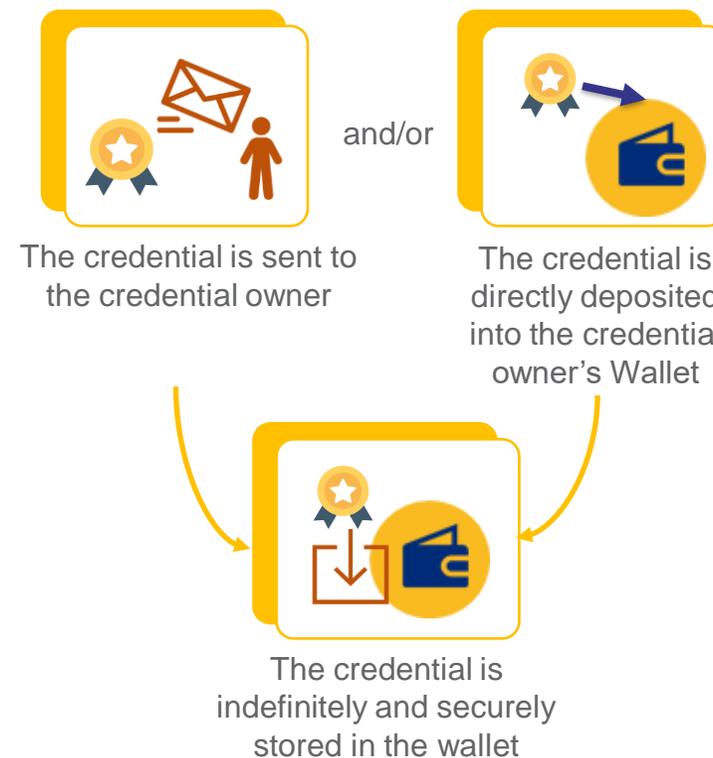
Any software can be used to issue standard-compliant credentials



Today: Paper-based



European Digital Credentials for Learning



No obligation to use Europass Wallet.

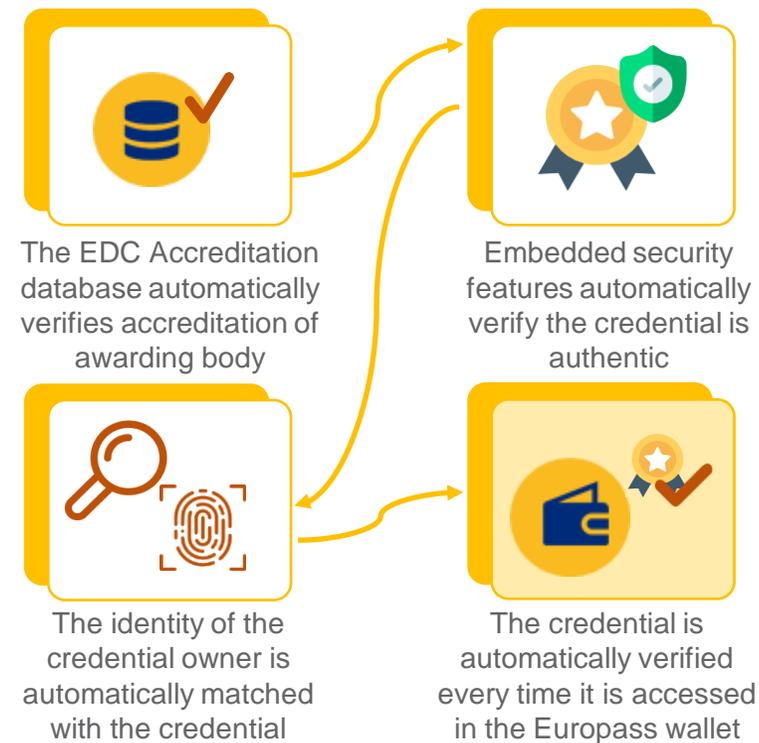
Credential-owner can run a wallet on their own device, or obtain one from any provider.



Today: Paper-based



European Digital Credentials for Learning





Today: Paper-based



The credential owner requests a new certified copy of the credential from the awarding body



The credential owner sends or presents the copy of the credential to the requester

European Digital Credentials for Learning

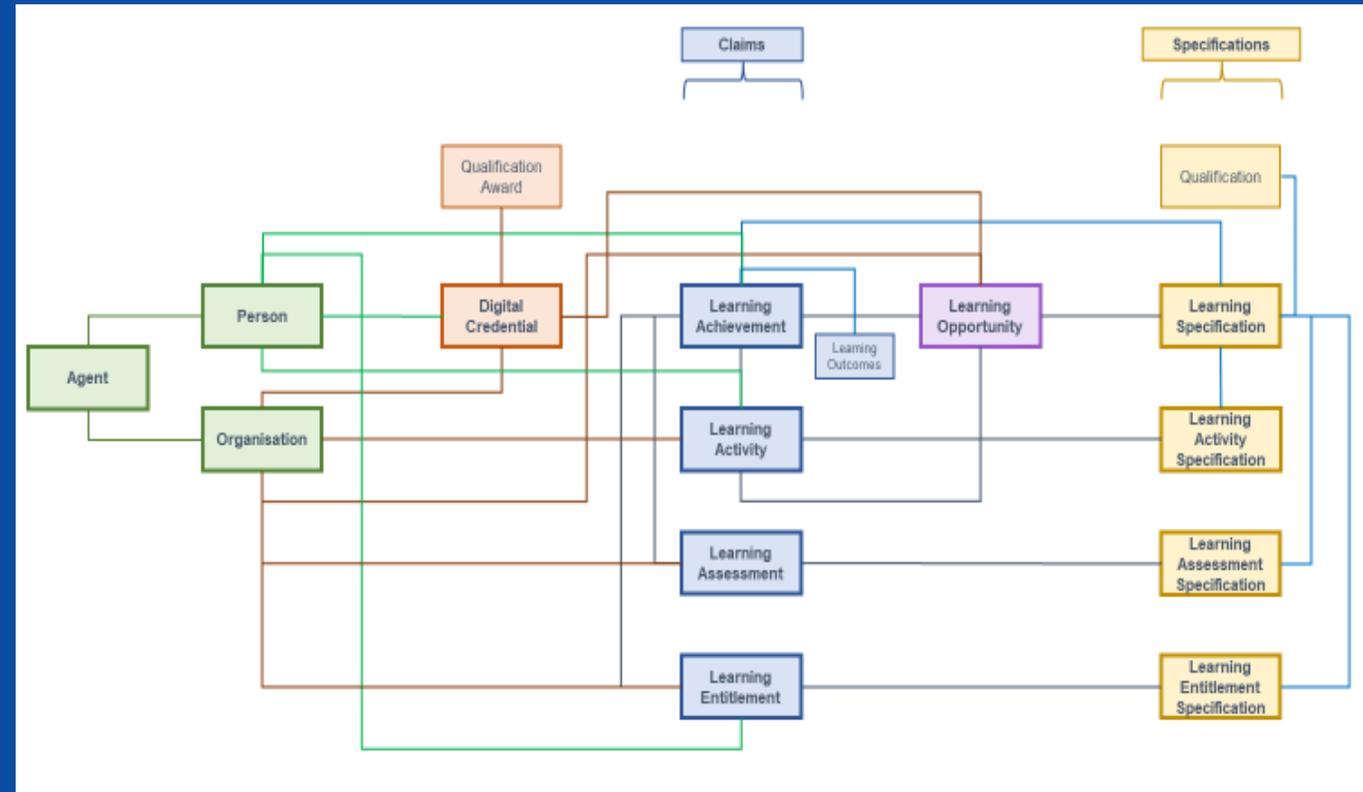


The credential owner shares a link to the credential in their wallet

No obligation to use Europass Wallet.

Link can be shared to any cloud-based wallet.

European Digital Credentials for Learning Data Composition



A European Digital Credential for Learning contains information about



Metadata
(data about the credential)



Issuer



Subject
(claims about person)



e-Seal

describes claims relates to



Activities



Achievements



Entitlements



Attestations



Learning Outcomes



Assessments

150 hours of coursework

100 hours of apprenticeship

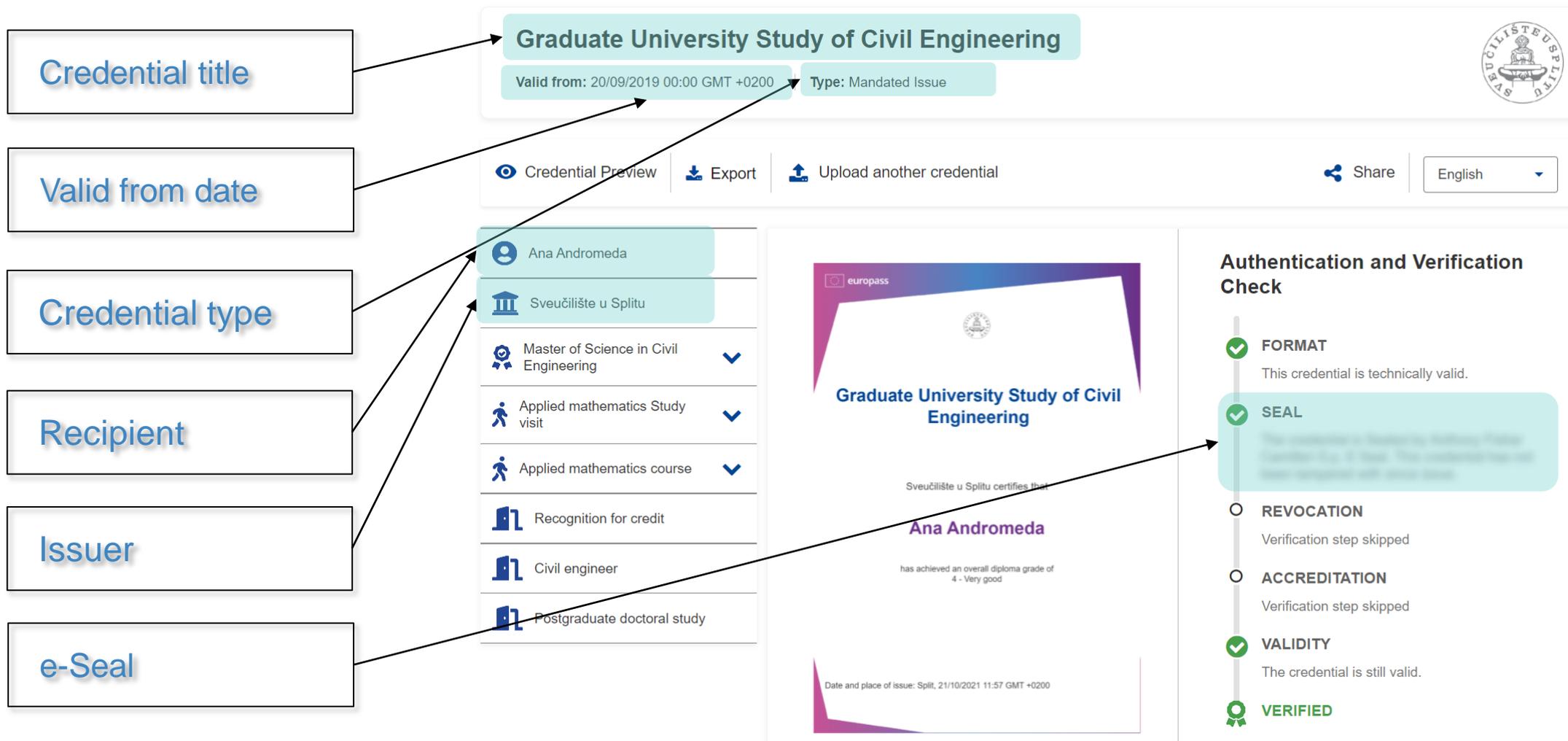
DE Qualification as a Painter

LO of skill of painting

Final Examination Grade B

Entitlement to work as a painter

Recognition of qualification in FI



The screenshot displays the Europass EDC interface for a credential. On the left, a list of boxes with labels is connected to specific parts of the interface by arrows:

- Credential title** points to the title "Graduate University Study of Civil Engineering".
- Valid from date** points to the "Valid from" date "20/09/2019 00:00 GMT +0200".
- Credential type** points to the "Type: Mandated Issue" label.
- Recipient** points to the recipient's name "Ana Andromeda".
- Issuer** points to the issuer's name "Sveučilište u Splitu".
- e-Seal** points to the "SEAL" verification step in the "Authentication and Verification Check" section.

The interface includes a top navigation bar with "Credential Preview", "Export", and "Upload another credential" buttons, along with a "Share" button and a language dropdown set to "English". The main content area shows a list of details for the recipient and issuer, a central image of the credential, and a vertical "Authentication and Verification Check" section on the right.

The "Authentication and Verification Check" section contains the following steps:

- FORMAT** (checked): This credential is technically valid.
- SEAL** (checked): The credential is signed by the issuer. The content is still valid.
- REVOCATION** (unchecked): Verification step skipped.
- ACCREDITATION** (unchecked): Verification step skipped.
- VALIDITY** (checked): The credential is still valid.
- VERIFIED** (checked):

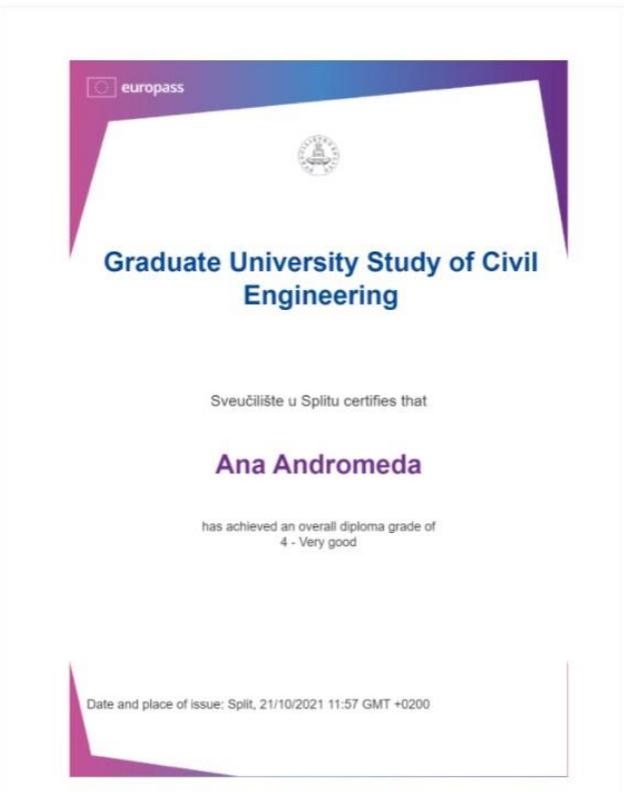
Graduate University Study of Civil Engineering

Valid from: 20/09/2019 00:00 GMT +0200 | Type: Mandated Issue



[Credential Preview](#) | [Export](#) | [Upload another credential](#) | [Share](#) | English

- Ana Andromeda
- Sveučilište u Splitu
- Master of Science in Civil Engineering
- Applied mathematics Study visit
- Applied mathematics course
- Recognition for credit
- Civil engineer
- Postgraduate doctoral study



Authentication and Verification Check

- FORMAT**
This credential is technically valid.
- SEAL**
The credential is sealed by the issuing Party. The seal is still valid.
- REVOCATION**
Verification step skipped
- ACCREDITATION**
University of Split is Accredited by the Croatian Agency for Quality Assurance.
- VALIDITY**
The credential is still valid.
- VERIFIED**

- Ana Andromeda
- Sveučilište u Splitu
- Master of Science in Civil Engineering**
- 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
- Postgraduate doctoral study
- Civil engineer
- Recognition for credit

Master of Science in Civil Engineering

Awarding Date: 20/09/2019 00:00 GMT +0200

Awarding Body: Fakultet Građevinarstva, Arhitekture i Geodezije

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.

Proven by

Title	Grade
Overall Assessment	excellent (5)

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

Entitles Owner to: Postgraduate doctoral study, Civil engineer, Recognition for credit

Sub-Achievements

Applied mathematics, Concrete structures I, Dynamics of structures and earthquake engineering, Geotechnical engineering, Stability of structures

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 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: use mathematical tools and equipment, execute analytical mathematical calculations, geodesy

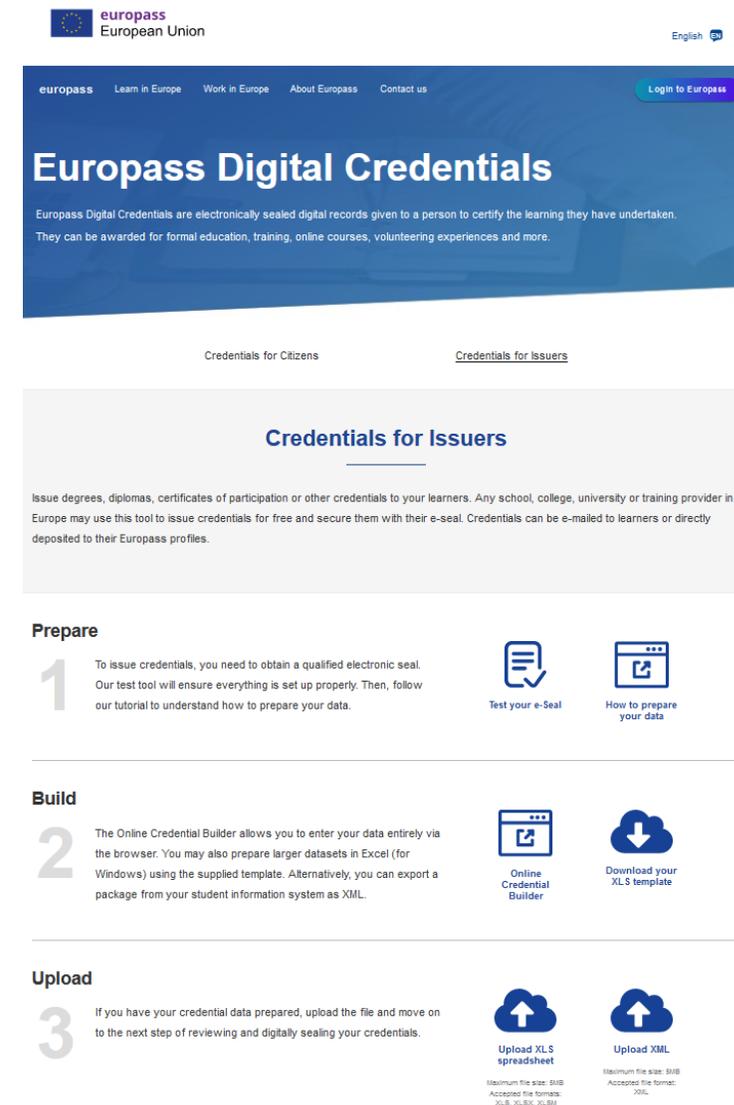
Related Skills: applied mathematics, perform engineering calculations, construct earthquake resistant structures

Includes **250 properties** to describe

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

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

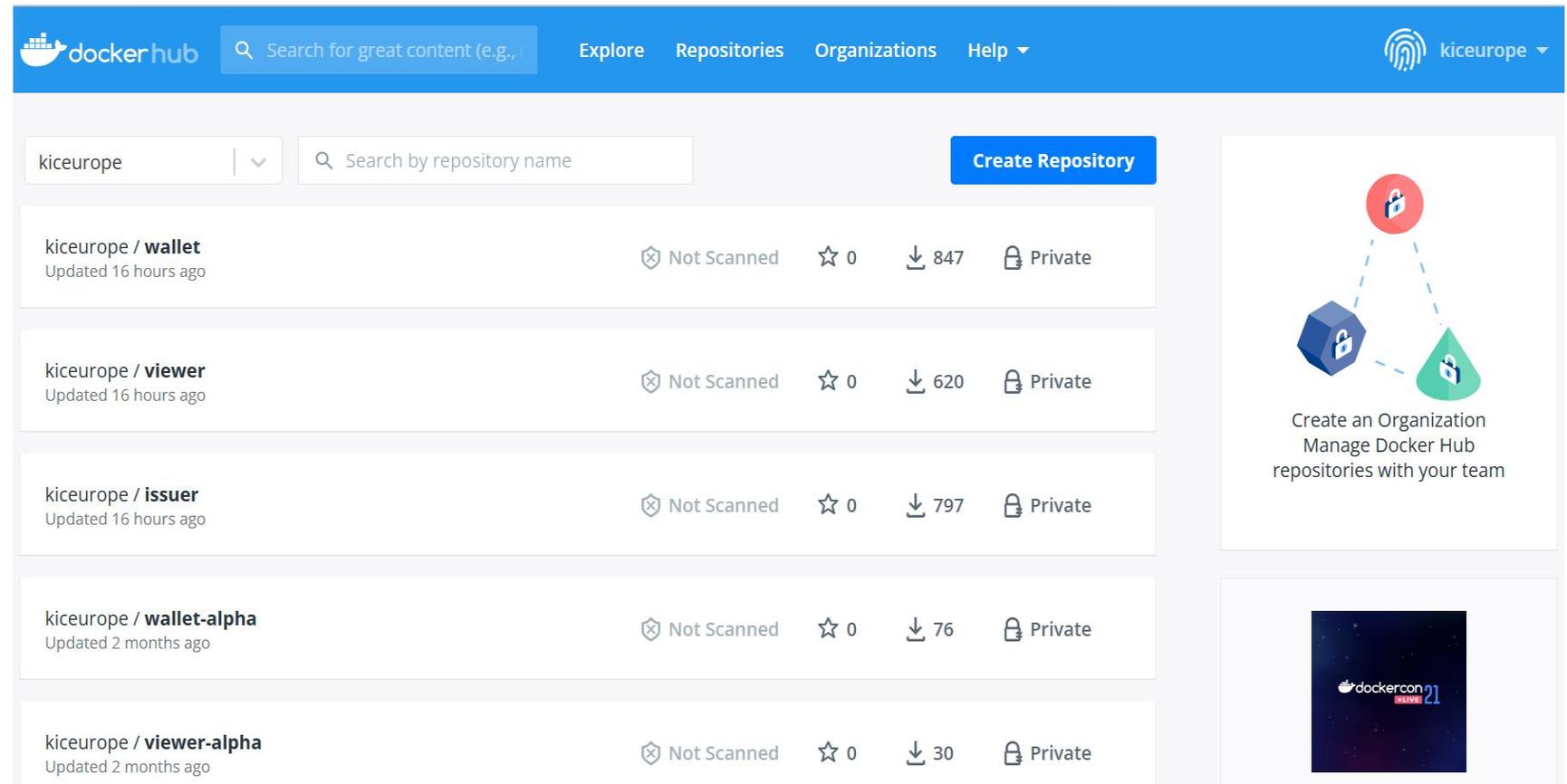
- **via Online Credential Builder**
 - + Online browser-based
 - + User-friendly (follows dev updates, handles associations well)
 - + All your templates in one place
- **via Excel template**
 - + Allows offline editing
 - + Suitable for collaborative editing
- **via XML upload**
 - + Native EDC format
 - + Most suitable for issuing large number of credentials (1000+)



The screenshot shows the Europass Digital Credentials website. At the top, there is a navigation bar with the Europass logo, the text 'European Union', and a language selector set to 'English'. Below the navigation bar, there are links for 'Learn in Europe', 'Work in Europe', 'About Europass', and 'Contact us', along with a 'Login to Europass' button. The main heading is 'Europass Digital Credentials'. Below this, a sub-heading reads 'Europass Digital Credentials are electronically sealed digital records given to a person to certify the learning they have undertaken. They can be awarded for formal education, training, online courses, volunteering experiences and more.' There are two tabs: 'Credentials for Citizens' and 'Credentials for Issuers', with the latter being selected. The 'Credentials for Issuers' section contains the following text: '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.' Below this text, there are three numbered 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.' It includes icons for 'Test your e-Seal' and 'How to prepare your data'. 2. **Build**: 'The Online Credential Builder allows you to enter your data entirely via the browser. You may also prepare larger datasets in Excel (for Windows) using the supplied template. Alternatively, you can export a package from your student information system as XML.' It includes icons for 'Online Credential Builder' and 'Download your XLS template'. 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.' It includes icons for 'Upload XLS spreadsheet' and 'Upload XML'. The 'Upload XLS spreadsheet' icon has additional text: 'Maximum file size: 5MB' and 'Accepted file formats: XLS, XLSX, CSV'. The 'Upload XML' icon has additional text: 'Maximum file size: 5MB' and 'Accepted file format: XML'.

Run the EDC infrastructure locally (medium up-front cost/investment)

- Code available in Github and/or as Docker Images
- Install and run the issuer, viewer and/or wallet service out of the box
- customise and integrate with the existing institutional system



The screenshot shows the Docker Hub interface for the 'kiceurope' organization. The top navigation bar includes the Docker Hub logo, a search bar, and links for Explore, Repositories, Organizations, and Help. The user 'kiceurope' is logged in. Below the navigation bar, there is a search bar with 'kiceurope' entered and a 'Create Repository' button. A list of repositories is displayed, each with its name, update time, scanning status, star count, download count, and privacy setting.

Repository Name	Updated	Scanning Status	Stars	Downloads	Privacy
kiceurope / wallet	Updated 16 hours ago	Not Scanned	0	847	Private
kiceurope / viewer	Updated 16 hours ago	Not Scanned	0	620	Private
kiceurope / issuer	Updated 16 hours ago	Not Scanned	0	797	Private
kiceurope / wallet-alpha	Updated 2 months ago	Not Scanned	0	76	Private
kiceurope / viewer-alpha	Updated 2 months ago	Not Scanned	0	30	Private

On the right side of the interface, there is a promotional card for creating an organization and managing Docker Hub repositories with a team, featuring a diagram of three interconnected nodes. Below it is a 'dockercon 21' logo.

Using the EDC Issuer service

- Awarding bodies are **already in a position to issue credentials** (in different formats not related to ECD) based upon legal obligation, contractual obligation and legitimate interest, depending on the case at hand

Learner consent

- EDC Issuer is merely a **tool** for an institution **to convert data** they already hold into Europass-compliant XML files
- **No specific consent needs to be requested**, however the current one (if any, since the processing of personal data should be based on legitimate interest, legal obligation or contractual obligation depending on the case) should be updated

Issue Credentials

Add as many Recipients as you need to issue the credential. All data entered on this screen will not be stored after the credentials are issued.

1. Recipient



2. Recipient



3. Recipient



4. Recipient



[+ Add Another Recipient](#)

I confirm that my organisation's data protection policy allows me to share this data with Europass for the duration of the session, for the purpose of creating and issuing credentials.

What is available?

- Infographics
- Information from NECs
- Information from EDC Support Team
- Europass pages related to EDCs
- [Interoperability pages](#)

What is foreseen?

- Ongoing work on supportive documentation (data model)
- Tutorial videos on ELM and credential building





Thank You

Q & A